Potential Flow Forces and Moments from Selected Ship Flow Codes in a Set of Numerical Experiments

Appendix L — Minimum and Maximum Plots for Prescribed Heave Motion of Model 5514

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Introduction

This appendix contains plots and tables related to the minimum and maximum value of each variable versus the nondimensional heave amplitude z_a/T for the prescribed heave motion of Model 5613 in task 1. The plots are found in Figures L–1 through L–60. For each variable, speed, and frequency there is one plot that depicts the results from all the codes. If f stands for a time-dependent variable, then the quantities plotted are the minimum and maximum of

$$f^* \equiv \frac{f - \langle f \rangle}{z_a/T}$$

where $\langle f \rangle$ is the mean. Only filtered values f are used since filtered values lessen the impact of spikes that probably originate in numerical filtering schemes in the codes. Linear variation as a function of the amplitude appears as a horizontal line. Quadratic variation appears as a straight line with a nonzero slope.

Tables L–1 through L–480 in this appendix correspond to the plots. Following each plot is one table for each of the eight codes for which data were received. The tables give information about the mean, the minimum and maximum of the unfiltered variable, the minimum and maximum of the filtered variable, and the starred function depicted in the figure.

For the corresponding time history plots, the reader is referred to Appendix B.

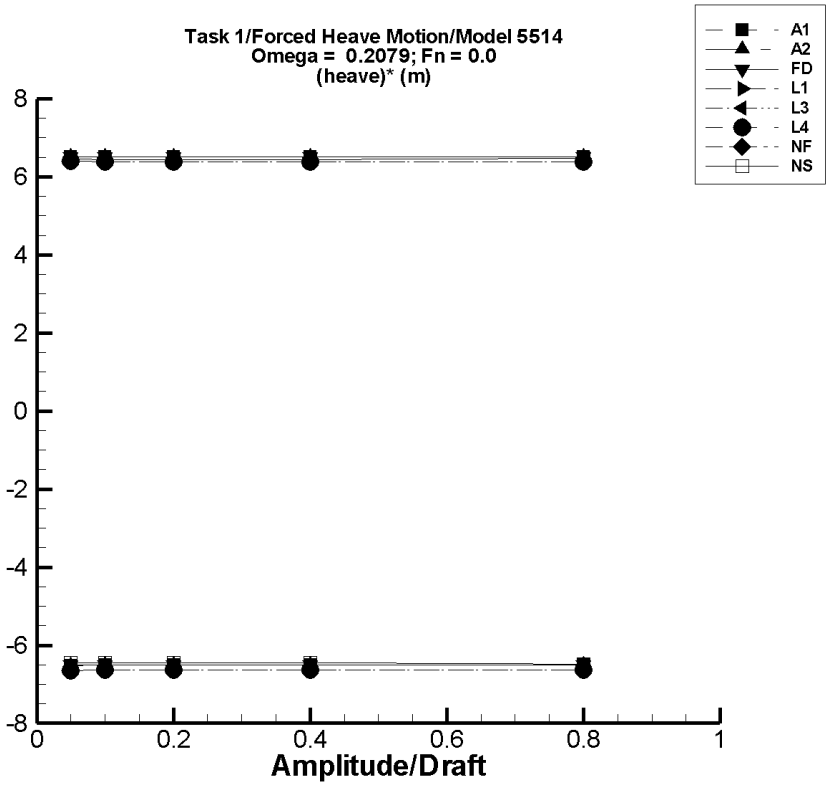

Figure L–1. Minimum and maximum of filtered $(z_e - \langle z_e \rangle)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–1. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle z_e \rangle$	**Unfiltered** z_e		**Filtered** z_e		**Filtered** $(z_e)^*$	
(z_a/T)	**Mean (m)**	**Min. (m)**	**Max. (m)**	**Min. (m)**	**Max. (m)**	**Min. (m)**	**Max. (m)**
.05	-2.71E-07	-0.326	0.326	-0.326	0.326	-6.51	6.52
.10	-4.18E-07	-0.651	0.651	-0.650	0.651	-6.50	6.51
.20	-9.15E-07	-1.30	1.30	-1.30	1.30	-6.50	6.51
.40	-1.59E-06	-2.60	2.60	-2.60	2.60	-6.50	6.51
.80	-3.38E-06	-5.21	5.21	-5.20	5.21	-6.50	6.51

Table L–2. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle z_e \rangle$	**Unfiltered** z_e		**Filtered** z_e		**Filtered** $(z_e)^*$	
(z_a/T)	**Mean (m)**	**Min. (m)**	**Max. (m)**	**Min. (m)**	**Max. (m)**	**Min. (m)**	**Max. (m)**
.05	-2.71E-07	-0.326	0.326	-0.326	0.326	-6.51	6.52
.10	-4.18E-07	-0.651	0.651	-0.650	0.651	-6.50	6.51
.20	-9.15E-07	-1.30	1.30	-1.30	1.30	-6.50	6.51
.40	-1.59E-06	-2.60	2.60	-2.60	2.60	-6.50	6.51
.80	-3.38E-06	-5.21	5.21	-5.20	5.21	-6.50	6.51

Table L–3. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

FREDYN							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	-9.01E-09	-0.325	0.325	-0.325	0.325	-6.50	6.50
.10	-2.03E-08	-0.651	0.651	-0.650	0.650	-6.50	6.50
.20	-5.63E-08	-1.30	1.30	-1.30	1.30	-6.50	6.50
.40	-6.34E-08	-2.60	2.60	-2.60	2.60	-6.50	6.50
.80	-8.20E-08	-5.21	5.21	-5.20	5.20	-6.50	6.50

Table L–4. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-1							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	7.76E-07	-0.326	0.326	-0.326	0.326	-6.52	6.52
.10	2.47E-06	-0.651	0.651	-0.651	0.651	-6.51	6.51
.20	4.73E-06	-1.30	1.30	-1.30	1.30	-6.51	6.51
.40	9.47E-06	-2.60	2.60	-2.60	2.60	-6.51	6.51
.80	1.95E-05	-5.21	5.21	-5.21	5.21	-6.51	6.51

Table L–5. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-3							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	7.76E-07	-0.326	0.326	-0.326	0.326	-6.52	6.52
.10	2.47E-06	-0.651	0.651	-0.651	0.651	-6.51	6.51
.20	4.73E-06	-1.30	1.30	-1.30	1.30	-6.51	6.51
.40	9.47E-06	-2.60	2.60	-2.60	2.60	-6.51	6.51
.80	1.95E-05	-5.21	5.21	-5.21	5.21	-6.51	6.51

Table L–6. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-4							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	7.76E-07	-0.326	0.326	-0.326	0.326	-6.52	6.52
.10	2.47E-06	-0.651	0.651	-0.651	0.651	-6.51	6.51
.20	4.73E-06	-1.30	1.30	-1.30	1.30	-6.51	6.51
.40	9.47E-06	-2.60	2.60	-2.60	2.60	-6.51	6.51
.80	1.95E-05	-5.21	5.21	-5.21	5.21	-6.51	6.51

Table L–7. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NFA							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–8. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NSHIPMO							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	2.45E-08	-0.326	0.326	-0.323	0.323	-6.45	6.45
.10	5.12E-08	-0.651	0.651	-0.645	0.645	-6.45	6.45
.20	1.12E-07	-1.30	1.30	-1.29	1.29	-6.45	6.45
.40	2.17E-07	-2.60	2.60	-2.58	2.58	-6.45	6.45
.80	-3.48E-07	-5.21	5.21	-5.18	5.18	-6.48	6.48

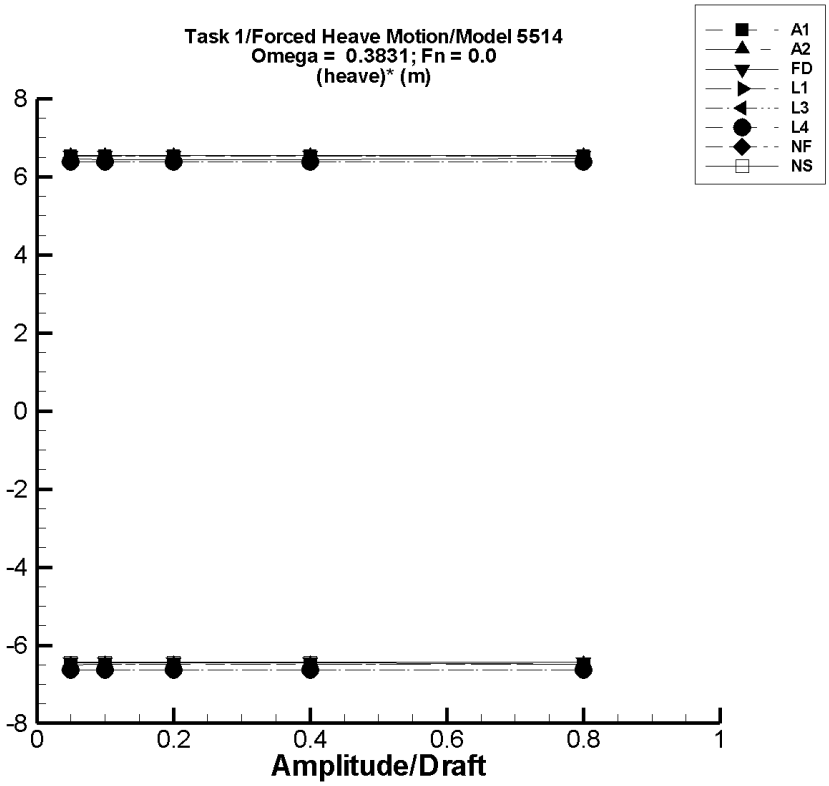

Figure L–2. Minimum and maximum of filtered $(z_e - \langle z_e \rangle)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–9. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-1							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	1.07E-08	-0.326	0.326	-0.325	0.327	-6.50	6.54
.10	5.57E-08	-0.651	0.651	-0.649	0.653	-6.49	6.53
.20	5.08E-08	-1.30	1.30	-1.30	1.31	-6.49	6.53
.40	2.82E-07	-2.60	2.60	-2.59	2.61	-6.49	6.53
.80	2.03E-07	-5.21	5.21	-5.19	5.22	-6.49	6.53

Table L–10. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-2							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	1.07E-08	-0.326	0.326	-0.325	0.327	-6.50	6.54
.10	5.57E-08	-0.651	0.651	-0.649	0.653	-6.49	6.53
.20	5.08E-08	-1.30	1.30	-1.30	1.31	-6.49	6.53
.40	2.82E-07	-2.60	2.60	-2.59	2.61	-6.49	6.53
.80	2.03E-07	-5.21	5.21	-5.19	5.22	-6.49	6.53

Table L–11. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

FREDYN							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	-3.63E-08	-0.325	0.325	-0.324	0.324	-6.49	6.49
.10	-6.28E-08	-0.651	0.651	-0.649	0.649	-6.49	6.49
.20	-1.55E-07	-1.30	1.30	-1.30	1.30	-6.49	6.49
.40	-2.65E-07	-2.60	2.60	-2.59	2.59	-6.49	6.49
.80	-5.89E-07	-5.21	5.21	-5.19	5.19	-6.49	6.49

Table L–12. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-1							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	1.17E-06	-0.326	0.326	-0.326	0.326	-6.51	6.51
.10	2.20E-06	-0.651	0.651	-0.650	0.650	-6.50	6.50
.20	4.34E-06	-1.30	1.30	-1.30	1.30	-6.50	6.50
.40	8.71E-06	-2.60	2.60	-2.60	2.60	-6.50	6.50
.80	1.71E-05	-5.21	5.21	-5.20	5.20	-6.50	6.50

Table L–13. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-3							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	1.17E-06	-0.326	0.326	-0.326	0.326	-6.51	6.51
.10	2.20E-06	-0.651	0.651	-0.650	0.650	-6.50	6.50
.20	4.34E-06	-1.30	1.30	-1.30	1.30	-6.50	6.50
.40	8.71E-06	-2.60	2.60	-2.60	2.60	-6.50	6.50
.80	1.71E-05	-5.21	5.21	-5.20	5.20	-6.50	6.50

Table L–14. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-4							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	1.17E-06	-0.326	0.326	-0.326	0.326	-6.51	6.51
.10	2.20E-06	-0.651	0.651	-0.650	0.650	-6.50	6.50
.20	4.34E-06	-1.30	1.30	-1.30	1.30	-6.50	6.50
.40	8.71E-06	-2.60	2.60	-2.60	2.60	-6.50	6.50
.80	1.71E-05	-5.21	5.21	-5.20	5.20	-6.50	6.50

Table L–15. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NFA							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–16. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NSHIPMO							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	5.69E-11	-0.326	0.326	-0.323	0.323	-6.45	6.45
.10	-4.91E-08	-0.651	0.651	-0.644	0.644	-6.44	6.44
.20	-8.38E-08	-1.30	1.30	-1.29	1.29	-6.44	6.44
.40	-2.53E-07	-2.60	2.60	-2.58	2.58	-6.44	6.44
.80	-3.56E-07	-5.21	5.21	-5.18	5.18	-6.48	6.48

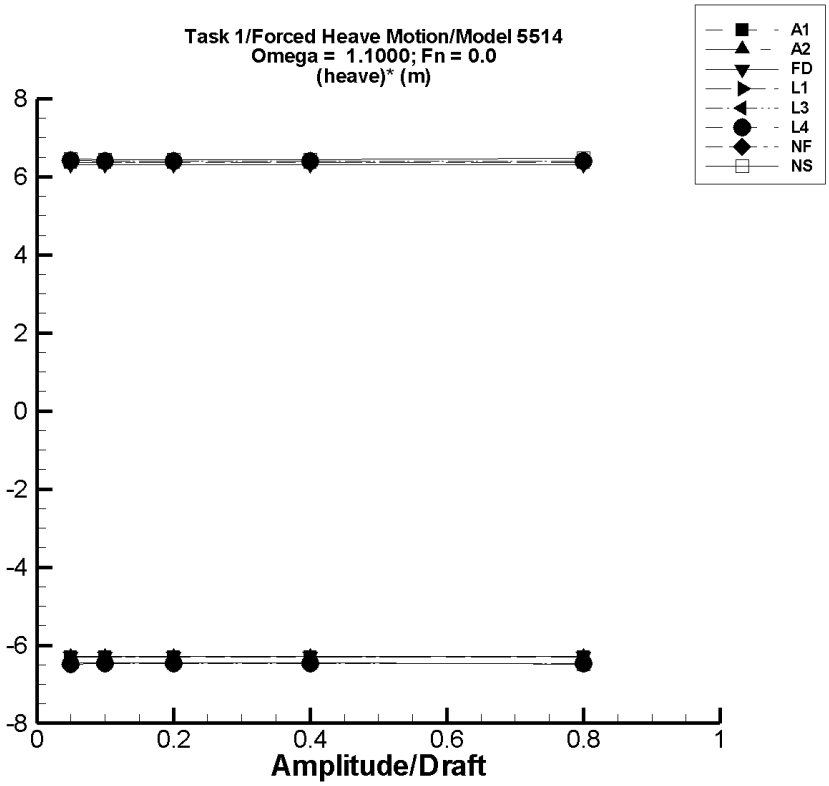

Figure L–3. Minimum and maximum of filtered $(z_e - \langle z_e \rangle)/(z_a/T)$ vs. (z_a/T) for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–17. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle z_e \rangle$	**Unfiltered z_e**		**Filtered z_e**		**Filtered $(z_e)^*$**	
(z_a/T)	**Mean (m)**	**Min. (m)**	**Max. (m)**	**Min. (m)**	**Max. (m)**	**Min. (m)**	**Max. (m)**
.05	-3.53E-07	-0.326	0.326	-0.316	0.318	-6.32	6.36
.10	-7.02E-07	-0.650	0.651	-0.631	0.635	-6.31	6.35
.20	-1.29E-06	-1.30	1.30	-1.26	1.27	-6.31	6.35
.40	-2.76E-06	-2.60	2.60	-2.52	2.54	-6.31	6.35
.80	-5.43E-06	-5.20	5.21	-5.04	5.08	-6.31	6.35

Table L–18. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle z_e \rangle$	**Unfiltered z_e**		**Filtered z_e**		**Filtered $(z_e)^*$**	
(z_a/T)	**Mean (m)**	**Min. (m)**	**Max. (m)**	**Min. (m)**	**Max. (m)**	**Min. (m)**	**Max. (m)**
.05	-3.53E-07	-0.326	0.326	-0.316	0.318	-6.32	6.36
.10	-7.02E-07	-0.650	0.651	-0.631	0.635	-6.31	6.35
.20	-1.29E-06	-1.30	1.30	-1.26	1.27	-6.31	6.35
.40	-2.76E-06	-2.60	2.60	-2.52	2.54	-6.31	6.35
.80	-5.43E-06	-5.20	5.21	-5.04	5.08	-6.31	6.35

Table L–19. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

FREDYN							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e**		**Filtered z_e**		**Filtered $(z_e)^*$**	
		Min. (m)	**Max. (m)**	**Min. (m)**	**Max. (m)**	**Min. (m)**	**Max. (m)**
.05	-4.81E-08	-0.325	0.325	-0.315	0.315	-6.30	6.30
.10	-1.42E-07	-0.650	0.651	-0.630	0.630	-6.30	6.30
.20	-2.38E-07	-1.30	1.30	-1.26	1.26	-6.30	6.30
.40	-4.86E-07	-2.60	2.60	-2.52	2.52	-6.30	6.30
.80	-8.83E-07	-5.20	5.21	-5.04	5.04	-6.30	6.30

Table L–20. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-1							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e**		**Filtered z_e**		**Filtered $(z_e)^*$**	
		Min. (m)	**Max. (m)**	**Min. (m)**	**Max. (m)**	**Min. (m)**	**Max. (m)**
.05	3.00E-07	-0.326	0.326	-0.322	0.322	-6.44	6.44
.10	8.97E-07	-0.651	0.651	-0.644	0.644	-6.44	6.44
.20	2.14E-06	-1.30	1.30	-1.29	1.29	-6.44	6.44
.40	3.43E-06	-2.60	2.60	-2.57	2.57	-6.44	6.44
.80	6.98E-06	-5.21	5.21	-5.15	5.15	-6.44	6.44

Table L–21. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-3							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	3.00E-07	-0.326	0.326	-0.322	0.322	-6.44	6.44
.10	8.97E-07	-0.651	0.651	-0.644	0.644	-6.44	6.44
.20	2.14E-06	-1.30	1.30	-1.29	1.29	-6.44	6.44
.40	3.43E-06	-2.60	2.60	-2.57	2.57	-6.44	6.44
.80	6.98E-06	-5.21	5.21	-5.15	5.15	-6.44	6.44

Table L–22. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-4							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	3.00E-07	-0.326	0.326	-0.322	0.322	-6.44	6.44
.10	8.97E-07	-0.651	0.651	-0.644	0.644	-6.44	6.44
.20	2.14E-06	-1.30	1.30	-1.29	1.29	-6.44	6.44
.40	3.43E-06	-2.60	2.60	-2.57	2.57	-6.44	6.44
.80	6.98E-06	-5.21	5.21	-5.15	5.15	-6.44	6.44

Table L–23. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NFA							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–24. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NSHIPMO							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	-1.02E-08	-0.326	0.326	-0.323	0.323	-6.45	6.45
.10	-1.30E-08	-0.651	0.651	-0.644	0.644	-6.44	6.44
.20	-6.14E-08	-1.30	1.30	-1.29	1.29	-6.44	6.44
.40	-1.43E-07	-2.60	2.60	-2.58	2.58	-6.44	6.44
.80	5.07E-07	-5.21	5.21	-5.18	5.18	-6.48	6.48

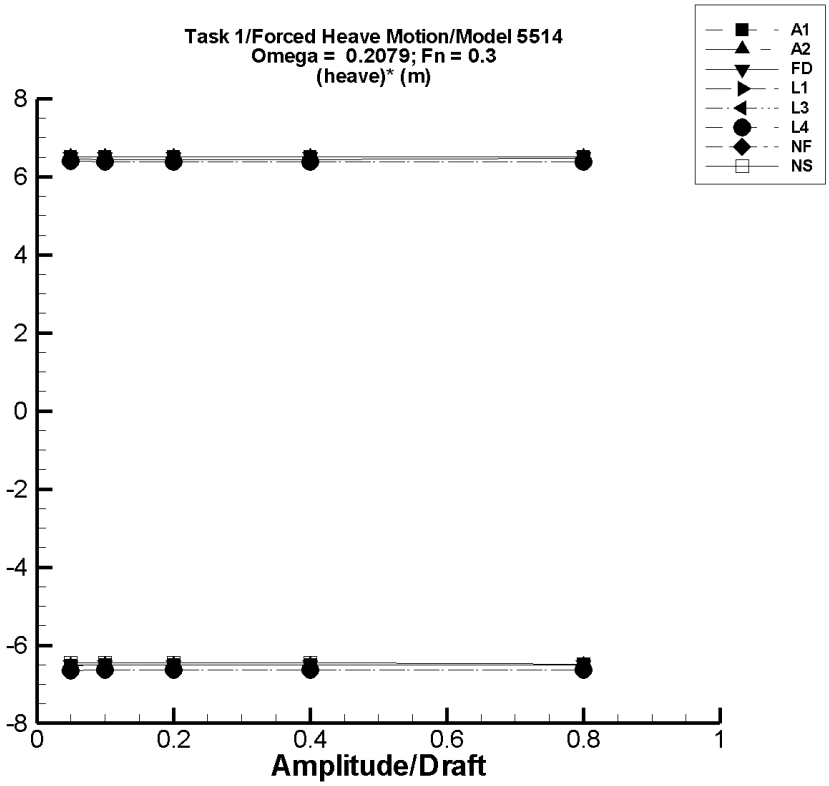

Figure L–4. Minimum and maximum of filtered $(z_e - \langle z_e \rangle)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–25. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle z_e \rangle$	**Unfiltered** z_e		**Filtered** z_e		**Filtered** $(z_e)^*$	
(z_a/T)	**Mean (m)**	**Min. (m)**	**Max. (m)**	**Min. (m)**	**Max. (m)**	**Min. (m)**	**Max. (m)**
.05	-2.71E-07	-0.326	0.326	-0.326	0.326	-6.51	6.52
.10	-4.18E-07	-0.651	0.651	-0.650	0.651	-6.50	6.51
.20	-9.15E-07	-1.30	1.30	-1.30	1.30	-6.50	6.51
.40	-1.59E-06	-2.60	2.60	-2.60	2.60	-6.50	6.51
.80	-3.38E-06	-5.21	5.21	-5.20	5.21	-6.50	6.51

Table L–26. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle z_e \rangle$	**Unfiltered** z_e		**Filtered** z_e		**Filtered** $(z_e)^*$	
(z_a/T)	**Mean (m)**	**Min. (m)**	**Max. (m)**	**Min. (m)**	**Max. (m)**	**Min. (m)**	**Max. (m)**
.05	-2.71E-07	-0.326	0.326	-0.326	0.326	-6.51	6.52
.10	-4.18E-07	-0.651	0.651	-0.650	0.651	-6.50	6.51
.20	-9.15E-07	-1.30	1.30	-1.30	1.30	-6.50	6.51
.40	-1.59E-06	-2.60	2.60	-2.60	2.60	-6.50	6.51
.80	-3.38E-06	-5.21	5.21	-5.20	5.21	-6.50	6.51

Table L–27. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

FREDYN							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e**		**Filtered z_e**		**Filtered $(z_e)^*$**	
		Min. (m)	**Max. (m)**	**Min. (m)**	**Max. (m)**	**Min. (m)**	**Max. (m)**
.05	-9.01E-09	-0.325	0.325	-0.325	0.325	-6.50	6.50
.10	-2.03E-08	-0.651	0.651	-0.650	0.650	-6.50	6.50
.20	-5.63E-08	-1.30	1.30	-1.30	1.30	-6.50	6.50
.40	-6.34E-08	-2.60	2.60	-2.60	2.60	-6.50	6.50
.80	-8.20E-08	-5.21	5.21	-5.20	5.20	-6.50	6.50

Table L–28. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-1							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e**		**Filtered z_e**		**Filtered $(z_e)^*$**	
		Min. (m)	**Max. (m)**	**Min. (m)**	**Max. (m)**	**Min. (m)**	**Max. (m)**
.05	7.76E-07	-0.326	0.326	-0.326	0.326	-6.52	6.52
.10	2.47E-06	-0.651	0.651	-0.651	0.651	-6.51	6.51
.20	4.73E-06	-1.30	1.30	-1.30	1.30	-6.51	6.51
.40	9.47E-06	-2.60	2.60	-2.60	2.60	-6.51	6.51
.80	1.95E-05	-5.21	5.21	-5.21	5.21	-6.51	6.51

Table L–29. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-3							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	7.76E-07	-0.326	0.326	-0.326	0.326	-6.52	6.52
.10	2.47E-06	-0.651	0.651	-0.651	0.651	-6.51	6.51
.20	4.73E-06	-1.30	1.30	-1.30	1.30	-6.51	6.51
.40	9.47E-06	-2.60	2.60	-2.60	2.60	-6.51	6.51
.80	1.95E-05	-5.21	5.21	-5.21	5.21	-6.51	6.51

Table L–30. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-4							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	7.76E-07	-0.326	0.326	-0.326	0.326	-6.52	6.52
.10	2.47E-06	-0.651	0.651	-0.651	0.651	-6.51	6.51
.20	4.73E-06	-1.30	1.30	-1.30	1.30	-6.51	6.51
.40	9.47E-06	-2.60	2.60	-2.60	2.60	-6.51	6.51
.80	1.95E-05	-5.21	5.21	-5.21	5.21	-6.51	6.51

Table L–31. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NFA							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–32. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NSHIPMO							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	2.45E-08	-0.326	0.326	-0.323	0.323	-6.45	6.45
.10	5.12E-08	-0.651	0.651	-0.645	0.645	-6.45	6.45
.20	1.12E-07	-1.30	1.30	-1.29	1.29	-6.45	6.45
.40	2.17E-07	-2.60	2.60	-2.58	2.58	-6.45	6.45
.80	-3.48E-07	-5.21	5.21	-5.18	5.18	-6.48	6.48

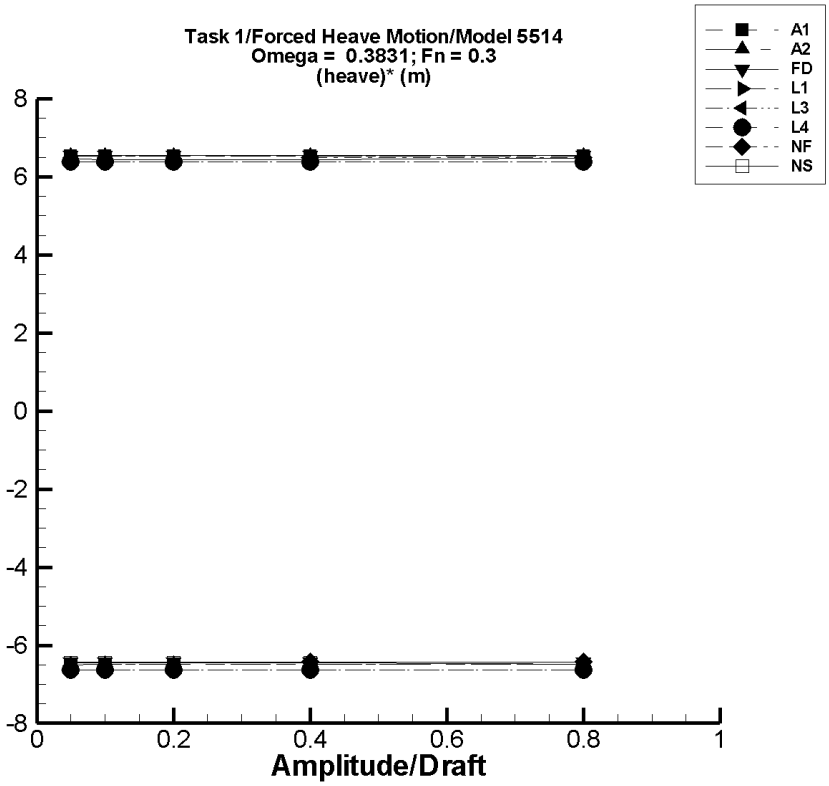

Figure L–5. Minimum and maximum of filtered $(z_e - \langle z_e \rangle)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–33. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-1							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	1.07E-08	-0.326	0.326	-0.325	0.327	-6.50	6.54
.10	5.57E-08	-0.651	0.651	-0.649	0.653	-6.49	6.53
.20	5.08E-08	-1.30	1.30	-1.30	1.31	-6.49	6.53
.40	2.82E-07	-2.60	2.60	-2.59	2.61	-6.49	6.53
.80	2.03E-07	-5.21	5.21	-5.19	5.22	-6.49	6.53

Table L–34. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-2							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	1.07E-08	-0.326	0.326	-0.325	0.327	-6.50	6.54
.10	5.57E-08	-0.651	0.651	-0.649	0.653	-6.49	6.53
.20	5.08E-08	-1.30	1.30	-1.30	1.31	-6.49	6.53
.40	2.82E-07	-2.60	2.60	-2.59	2.61	-6.49	6.53
.80	2.03E-07	-5.21	5.21	-5.19	5.22	-6.49	6.53

Table L–35. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

FREDYN							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e**		**Filtered z_e**		**Filtered $(z_e)^*$**	
		Min. (m)	**Max. (m)**	**Min. (m)**	**Max. (m)**	**Min. (m)**	**Max. (m)**
.05	-3.63E-08	-0.325	0.325	-0.324	0.324	-6.49	6.49
.10	-6.28E-08	-0.651	0.651	-0.649	0.649	-6.49	6.49
.20	-1.55E-07	-1.30	1.30	-1.30	1.30	-6.49	6.49
.40	-2.65E-07	-2.60	2.60	-2.59	2.59	-6.49	6.49
.80	-5.89E-07	-5.21	5.21	-5.19	5.19	-6.49	6.49

Table L–36. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-1							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e**		**Filtered z_e**		**Filtered $(z_e)^*$**	
		Min. (m)	**Max. (m)**	**Min. (m)**	**Max. (m)**	**Min. (m)**	**Max. (m)**
.05	1.17E-06	-0.326	0.326	-0.326	0.326	-6.51	6.51
.10	2.20E-06	-0.651	0.651	-0.650	0.650	-6.50	6.50
.20	4.34E-06	-1.30	1.30	-1.30	1.30	-6.50	6.50
.40	8.71E-06	-2.60	2.60	-2.60	2.60	-6.50	6.50
.80	1.71E-05	-5.21	5.21	-5.20	5.20	-6.50	6.50

Table L–37. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-3							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	1.17E-06	-0.326	0.326	-0.326	0.326	-6.51	6.51
.10	2.20E-06	-0.651	0.651	-0.650	0.650	-6.50	6.50
.20	4.34E-06	-1.30	1.30	-1.30	1.30	-6.50	6.50
.40	8.71E-06	-2.60	2.60	-2.60	2.60	-6.50	6.50
.80	1.71E-05	-5.21	5.21	-5.20	5.20	-6.50	6.50

Table L–38. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-4							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	1.17E-06	-0.326	0.326	-0.326	0.326	-6.51	6.51
.10	2.20E-06	-0.651	0.651	-0.650	0.650	-6.50	6.50
.20	4.34E-06	-1.30	1.30	-1.30	1.30	-6.50	6.50
.40	8.71E-06	-2.60	2.60	-2.60	2.60	-6.50	6.50
.80	1.71E-05	-5.21	5.21	-5.20	5.20	-6.50	6.50

Table L–39. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NFA							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	-5.68E-03	-1.30	1.30	-1.29	1.29	-6.44	6.50
.40	-1.13E-02	-2.60	2.60	-2.59	2.59	-6.44	6.50
.80	-2.26E-02	-5.21	5.21	-5.17	5.18	-6.44	6.50

Table L–40. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NSHIPMO							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	5.69E-11	-0.326	0.326	-0.323	0.323	-6.45	6.45
.10	-4.91E-08	-0.651	0.651	-0.644	0.644	-6.44	6.44
.20	-8.38E-08	-1.30	1.30	-1.29	1.29	-6.44	6.44
.40	-2.53E-07	-2.60	2.60	-2.58	2.58	-6.44	6.44
.80	-3.56E-07	-5.21	5.21	-5.18	5.18	-6.48	6.48

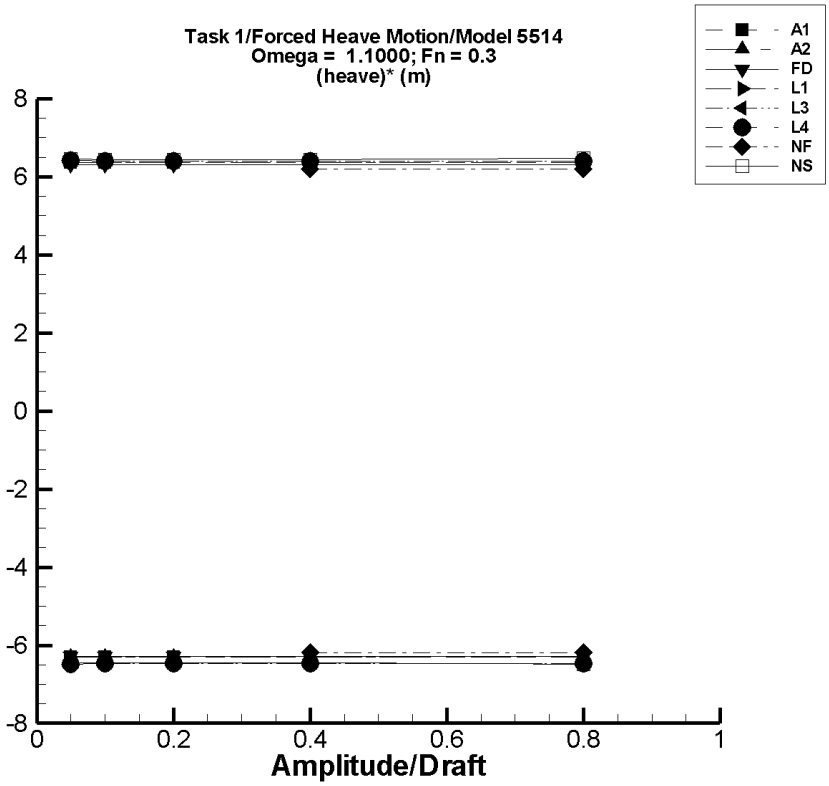

Figure L–6. Minimum and maximum of filtered $(z_e - \langle z_e \rangle)/(z_a/T)$ vs. (z_a/T) for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–41. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle z_e \rangle$	**Unfiltered** z_e		**Filtered** z_e		**Filtered** $(z_e)^*$	
(z_a/T)	**Mean**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**
	(m)	**(m)**	**(m)**	**(m)**	**(m)**	**(m)**	**(m)**
.05	-3.53E-07	-0.326	0.326	-0.316	0.318	-6.32	6.36
.10	-7.02E-07	-0.650	0.651	-0.631	0.635	-6.31	6.35
.20	-1.29E-06	-1.30	1.30	-1.26	1.27	-6.31	6.35
.40	-2.76E-06	-2.60	2.60	-2.52	2.54	-6.31	6.35
.80	-5.43E-06	-5.20	5.21	-5.04	5.08	-6.31	6.35

Table L–42. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle z_e \rangle$	**Unfiltered** z_e		**Filtered** z_e		**Filtered** $(z_e)^*$	
(z_a/T)	**Mean**	**Min.**	**Max.**	**Min.**	**Max.**	**Min.**	**Max.**
	(m)	**(m)**	**(m)**	**(m)**	**(m)**	**(m)**	**(m)**
.05	-3.53E-07	-0.326	0.326	-0.316	0.318	-6.32	6.36
.10	-7.02E-07	-0.650	0.651	-0.631	0.635	-6.31	6.35
.20	-1.29E-06	-1.30	1.30	-1.26	1.27	-6.31	6.35
.40	-2.76E-06	-2.60	2.60	-2.52	2.54	-6.31	6.35
.80	-5.43E-06	-5.20	5.21	-5.04	5.08	-6.31	6.35

Table L–43. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

FREDYN							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	-4.81E-08	-0.325	0.325	-0.315	0.315	-6.30	6.30
.10	-1.42E-07	-0.650	0.651	-0.630	0.630	-6.30	6.30
.20	-2.38E-07	-1.30	1.30	-1.26	1.26	-6.30	6.30
.40	-4.86E-07	-2.60	2.60	-2.52	2.52	-6.30	6.30
.80	-8.83E-07	-5.20	5.21	-5.04	5.04	-6.30	6.30

Table L–44. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-1							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	3.00E-07	-0.326	0.326	-0.322	0.322	-6.44	6.44
.10	8.97E-07	-0.651	0.651	-0.644	0.644	-6.44	6.44
.20	2.14E-06	-1.30	1.30	-1.29	1.29	-6.44	6.44
.40	3.43E-06	-2.60	2.60	-2.57	2.57	-6.44	6.44
.80	6.98E-06	-5.21	5.21	-5.15	5.15	-6.44	6.44

Table L–45. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-3							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	3.00E-07	-0.326	0.326	-0.322	0.322	-6.44	6.44
.10	8.97E-07	-0.651	0.651	-0.644	0.644	-6.44	6.44
.20	2.14E-06	-1.30	1.30	-1.29	1.29	-6.44	6.44
.40	3.43E-06	-2.60	2.60	-2.57	2.57	-6.44	6.44
.80	6.98E-06	-5.21	5.21	-5.15	5.15	-6.44	6.44

Table L–46. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-4							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	3.00E-07	-0.326	0.326	-0.322	0.322	-6.44	6.44
.10	8.97E-07	-0.651	0.651	-0.644	0.644	-6.44	6.44
.20	2.14E-06	-1.30	1.30	-1.29	1.29	-6.44	6.44
.40	3.43E-06	-2.60	2.60	-2.57	2.57	-6.44	6.44
.80	6.98E-06	-5.21	5.21	-5.15	5.15	-6.44	6.44

Table L–47. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NFA							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	2.60E-04	-1.30	1.30	-1.24	1.24	-6.19	6.20
.40	-1.77E-04	-2.60	2.60	-2.47	2.48	-6.18	6.20
.80	1.04E-03	-5.21	5.20	-4.95	4.96	-6.19	6.20

Table L–48. Minimum and Maximum of Variables z_e and $(z_e)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NSHIPMO							
(z_a/T)	$\langle z_e \rangle$ **Mean (m)**	**Unfiltered z_e Min. (m)**	**Unfiltered z_e Max. (m)**	**Filtered z_e Min. (m)**	**Filtered z_e Max. (m)**	**Filtered $(z_e)^*$ Min. (m)**	**Filtered $(z_e)^*$ Max. (m)**
.05	-1.02E-08	-0.326	0.326	-0.323	0.323	-6.45	6.45
.10	-1.30E-08	-0.651	0.651	-0.644	0.644	-6.44	6.44
.20	-6.14E-08	-1.30	1.30	-1.29	1.29	-6.44	6.44
.40	-1.43E-07	-2.60	2.60	-2.58	2.58	-6.44	6.44
.80	5.07E-07	-5.21	5.21	-5.18	5.18	-6.48	6.48

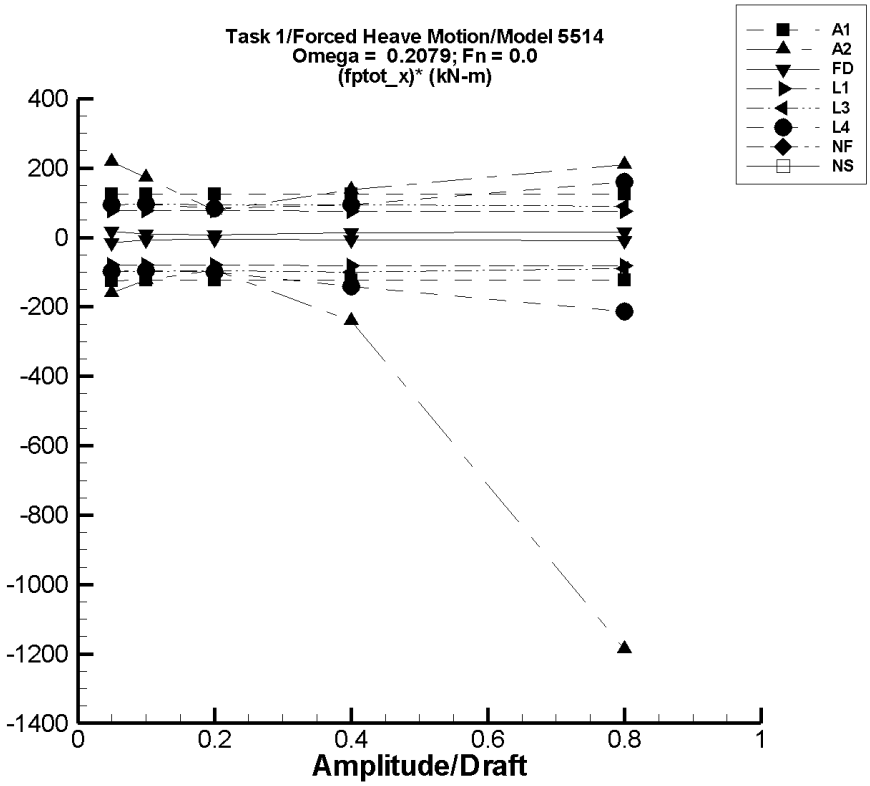

Figure L–7. Minimum and maximum of filtered $\left(F_x^{\text{ptot}} - \langle F_x^{\text{ptot}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–49. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	-2.91E-03	-6.74	6.73	-6.19	6.22	-124.	124.
.10	-5.80E-03	-13.5	13.4	-12.4	12.4	-124.	124.
.20	-1.16E-02	-26.9	26.9	-24.7	24.8	-124.	124.
.40	-2.32E-02	-53.9	53.8	-49.5	49.7	-124.	124.
.80	-4.64E-02	-108.	108.	-98.9	99.3	-124.	124.

Table L–50. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	41.6	33.2	52.8	33.6	52.5	-160.	218.
.10	45.3	32.7	63.2	33.1	62.5	-123.	172.
.20	50.6	28.9	70.5	32.0	66.3	-93.4	78.1
.40	28.4	-68.4	86.7	-67.6	83.8	-240.	138.
.80	-41.0	-3.31E+03	135.	-990.	126.	-1.19E+03	209.

Table L–51. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

FREDYN							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $(F_x^{\text{ptot}})^*$ Min. (kN)	Filtered $(F_x^{\text{ptot}})^*$ Max. (kN)
.05	-21.4	-22.2	-20.5	-22.2	-20.5	-14.8	17.7
.10	-21.5	-22.2	-20.5	-22.2	-20.5	-6.19	9.85
.20	-21.3	-22.2	-20.0	-22.1	-20.0	-4.17	6.73
.40	-20.4	-23.2	-15.0	-23.2	-15.0	-7.11	13.3
.80	-18.0	-25.2	-5.40	-25.1	-5.42	-8.88	15.7

Table L–52. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-1							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $(F_x^{\text{ptot}})^*$ Min. (kN)	Filtered $(F_x^{\text{ptot}})^*$ Max. (kN)
.05	7.53E-03	-3.93	3.95	-3.92	3.94	-78.6	78.7
.10	3.00E-02	-7.84	7.88	-7.83	7.88	-78.6	78.5
.20	0.120	-15.7	15.8	-15.7	15.8	-78.9	78.2
.40	0.480	-31.4	31.5	-31.3	31.5	-79.5	77.6
.80	1.92	-62.7	63.1	-62.7	63.0	-80.7	76.4

Table L–53. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-3							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Max. (kN)
.05	-16.3	-21.1	-11.5	-21.1	-11.5	-96.7	96.4
.10	-16.2	-25.9	-6.44	-25.8	-6.45	-96.0	97.9
.20	-15.8	-34.5	3.28	-34.5	3.27	-93.4	95.4
.40	-15.4	-54.6	23.2	-54.6	23.1	-98.1	96.3
.80	-12.1	-82.0	61.0	-81.9	60.9	-87.2	91.3

Table L–54. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-4							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Max. (kN)
.05	-16.2	-21.0	-11.4	-21.0	-11.4	-95.6	96.4
.10	-16.0	-25.5	-6.29	-25.5	-6.31	-94.9	97.3
.20	-15.1	-35.2	19.0	-34.8	1.91	-98.7	84.8
.40	-14.0	-69.8	49.7	-69.1	24.6	-138.	96.5
.80	-12.1	-183.	135.	-179.	121.	-209.	166.

Table L–55. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NFA							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ **Mean (kN)**	**Unfiltered** F_x^{ptot} **Min. (kN)**	**Max. (kN)**	**Filtered** F_x^{ptot} **Min. (kN)**	**Max. (kN)**	**Filtered** $\left(F_x^{\text{ptot}}\right)^*$ **Min. (kN)**	**Max. (kN)**
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–56. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NSHIPMO							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ **Mean (kN)**	**Unfiltered** F_x^{ptot} **Min. (kN)**	**Max. (kN)**	**Filtered** F_x^{ptot} **Min. (kN)**	**Max. (kN)**	**Filtered** $\left(F_x^{\text{ptot}}\right)^*$ **Min. (kN)**	**Max. (kN)**
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

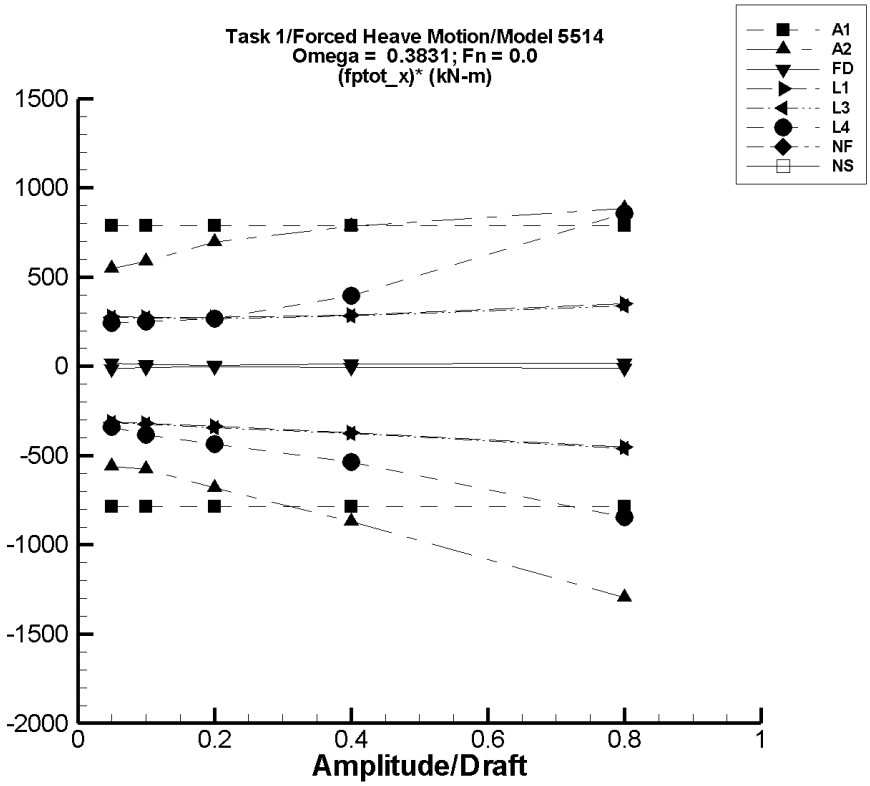

Figure L–8. Minimum and maximum of filtered $\left(F_x^{\text{ptot}} - \langle F_x^{\text{ptot}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–57. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-1							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Max. (kN)	Filtered $(F_x^{\text{ptot}})^*$ Min. (kN)	Max. (kN)
.05	-0.111	-39.5	39.6	-39.4	39.4	-786.	790.
.10	-0.222	-78.9	79.0	-78.7	78.7	-785.	789.
.20	-0.443	-158.	158.	-157.	157.	-785.	789.
.40	-0.886	-316.	316.	-315.	315.	-785.	789.
.80	-1.77	-631.	632.	-629.	629.	-785.	789.

Table L–58. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-2							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Max. (kN)	Filtered $(F_x^{\text{ptot}})^*$ Min. (kN)	Max. (kN)
.05	41.5	12.7	69.0	13.6	68.9	-559.	547.
.10	45.1	-14.2	104.	-12.6	104.	-577.	589.
.20	46.7	-1.15E+03	187.	-89.4	186.	-681.	697.
.40	27.6	-322.	343.	-320.	341.	-870.	784.
.80	-49.4	-3.78E+03	660.	-1.09E+03	658.	-1.29E+03	884.

Table L–59. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

FREDYN							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Max. (kN)
.05	-21.4	-22.2	-20.5	-22.2	-20.5	-14.7	17.6
.10	-21.5	-22.2	-20.5	-22.1	-20.6	-6.05	9.40
.20	-21.3	-22.2	-20.0	-22.1	-20.0	-3.82	6.72
.40	-20.4	-23.2	-15.0	-23.2	-15.1	-6.98	13.3
.80	-18.0	-25.2	-5.40	-25.0	-5.50	-8.78	15.6

Table L–60. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-1							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Max. (kN)
.05	-0.446	-15.5	14.1	-15.5	14.1	-300.	291.
.10	-1.75	-32.5	26.9	-32.5	26.9	-307.	286.
.20	-6.95	-71.9	50.1	-71.8	50.0	-324.	285.
.40	-27.7	-173.	91.7	-172.	91.4	-362.	298.
.80	-111.	-466.	177.	-465.	177.	-443.	359.

Table L–61. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-3							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ **Mean (kN)**	**Unfiltered** F_x^{ptot} **Min. (kN)**	**Max. (kN)**	**Filtered** F_x^{ptot} **Min. (kN)**	**Max. (kN)**	**Filtered** $\left(F_x^{\text{ptot}}\right)^*$ **Min. (kN)**	**Max. (kN)**
.05	-16.7	-32.0	-2.21	-32.0	-2.30	-305.	289.
.10	-18.0	-49.2	10.4	-49.2	10.4	-311.	284.
.20	-22.9	-89.0	32.9	-88.9	32.8	-330.	278.
.40	-43.6	-191.	73.1	-190.	72.9	-367.	291.
.80	-125.	-488.	153.	-487.	152.	-453.	346.

Table L–62. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-4							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ **Mean (kN)**	**Unfiltered** F_x^{ptot} **Min. (kN)**	**Max. (kN)**	**Filtered** F_x^{ptot} **Min. (kN)**	**Max. (kN)**	**Filtered** $\left(F_x^{\text{ptot}}\right)^*$ **Min. (kN)**	**Max. (kN)**
.05	-15.6	-32.4	-2.69	-32.0	-2.77	-330.	256.
.10	-13.6	-53.6	14.2	-50.9	12.3	-372.	260.
.20	-5.95	-97.8	69.0	-91.4	49.4	-427.	277.
.40	14.0	-236.	215.	-198.	174.	-530.	401.
.80	57.8	-690.	789.	-619.	744.	-847.	858.

Table L–63. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NFA							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–64. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NSHIPMO							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

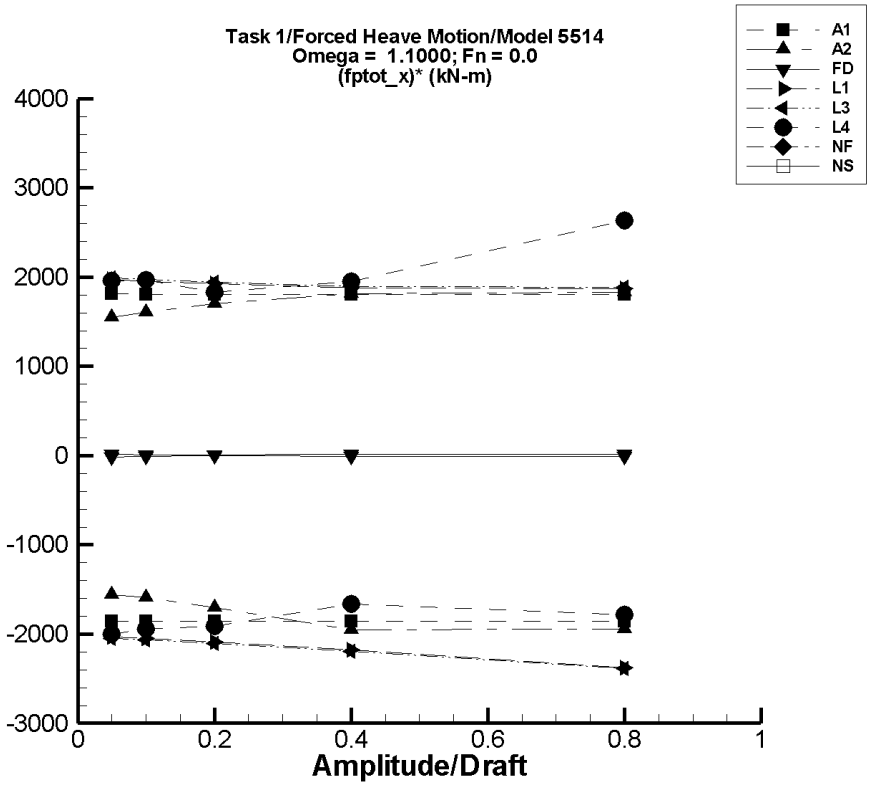

Figure L–9. Minimum and maximum of filtered $\left(F_x^{\text{ptot}} - \langle F_x^{\text{ptot}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–65. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle \boldsymbol{F_x^{\text{ptot}}} \rangle$	**Unfiltered** $\boldsymbol{F_x^{\text{ptot}}}$		**Filtered** $\boldsymbol{F_x^{\text{ptot}}}$		**Filtered** $\left(\boldsymbol{F_x^{\text{ptot}}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	-1.40	-97.5	92.0	-94.4	89.2	-1.86E+03	1.81E+03
.10	-2.79	-195.	184.	-188.	178.	-1.86E+03	1.81E+03
.20	-5.58	-389.	367.	-377.	356.	-1.86E+03	1.81E+03
.40	-11.2	-779.	735.	-754.	713.	-1.86E+03	1.81E+03
.80	-22.3	-1.56E+03	1.47E+03	-1.51E+03	1.43E+03	-1.86E+03	1.81E+03

Table L–66. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle \boldsymbol{F_x^{\text{ptot}}} \rangle$	**Unfiltered** $\boldsymbol{F_x^{\text{ptot}}}$		**Filtered** $\boldsymbol{F_x^{\text{ptot}}}$		**Filtered** $\left(\boldsymbol{F_x^{\text{ptot}}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	40.2	-40.2	120.	-37.6	118.	-1.56E+03	1.55E+03
.10	42.5	-122.	209.	-117.	203.	-1.59E+03	1.61E+03
.20	45.1	-309.	396.	-296.	385.	-1.70E+03	1.70E+03
.40	17.1	-793.	767.	-764.	744.	-1.95E+03	1.82E+03
.80	-13.5	-1.64E+03	1.50E+03	-1.57E+03	1.45E+03	-1.94E+03	1.83E+03

Table L–67. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

FREDYN							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $(F_x^{\text{ptot}})^*$ Min. (kN)	Filtered $(F_x^{\text{ptot}})^*$ Max. (kN)
.05	-21.4	-22.2	-20.5	-22.2	-20.6	-14.7	15.7
.10	-21.5	-22.2	-20.5	-22.0	-21.0	-4.87	5.11
.20	-21.3	-22.1	-20.0	-21.8	-20.1	-2.44	6.07
.40	-20.4	-23.2	-15.0	-23.1	-15.2	-6.81	12.9
.80	-18.0	-25.0	-5.40	-24.9	-5.92	-8.65	15.1

Table L–68. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-1							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $(F_x^{\text{ptot}})^*$ Min. (kN)	Filtered $(F_x^{\text{ptot}})^*$ Max. (kN)
.05	1.32	-101.	102.	-99.6	101.	-2.02E+03	1.99E+03
.10	5.05	-201.	204.	-198.	202.	-2.03E+03	1.97E+03
.20	19.8	-400.	412.	-394.	408.	-2.07E+03	1.94E+03
.40	78.2	-795.	849.	-783.	841.	-2.15E+03	1.91E+03
.80	311.	-1.59E+03	1.86E+03	-1.56E+03	1.84E+03	-2.34E+03	1.91E+03

Table L–69. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle \boldsymbol{F_x^{\text{ptot}}} \rangle$	Unfiltered $\boldsymbol{F_x^{\text{ptot}}}$		Filtered $\boldsymbol{F_x^{\text{ptot}}}$		Filtered $\left(\boldsymbol{F_x^{\text{ptot}}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-15.0	-118.	86.2	-117.	85.2	-2.04E+03	2.00E+03
.10	-11.2	-219.	190.	-216.	187.	-2.05E+03	1.99E+03
.20	3.85	-418.	399.	-413.	395.	-2.08E+03	1.96E+03
.40	62.3	-819.	839.	-807.	831.	-2.17E+03	1.92E+03
.80	297.	-1.61E+03	1.86E+03	-1.58E+03	1.84E+03	-2.34E+03	1.92E+03

Table L–70. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle \boldsymbol{F_x^{\text{ptot}}} \rangle$	Unfiltered $\boldsymbol{F_x^{\text{ptot}}}$		Filtered $\boldsymbol{F_x^{\text{ptot}}}$		Filtered $\left(\boldsymbol{F_x^{\text{ptot}}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-16.4	-118.	85.1	-116.	82.4	-1.99E+03	1.98E+03
.10	-17.2	-220.	185.	-210.	181.	-1.93E+03	1.98E+03
.20	-8.82	-407.	404.	-387.	362.	-1.89E+03	1.85E+03
.40	13.6	-705.	1.00E+03	-637.	809.	-1.63E+03	1.99E+03
.80	-39.2	-1.56E+03	2.77E+03	-1.42E+03	2.11E+03	-1.73E+03	2.68E+03

Table L–71. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NFA							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–72. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NSHIPMO							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

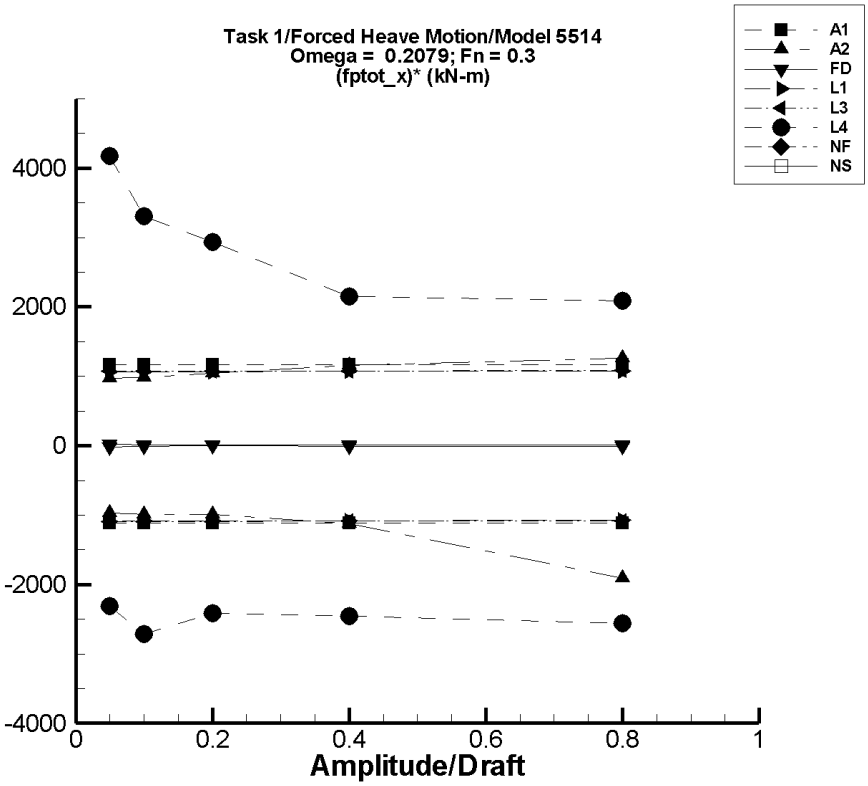

Figure L–10. Minimum and maximum of filtered $\left(F_x^{\text{ptot}} - \langle F_x^{\text{ptot}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–73. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-0.172	-56.1	58.5	-56.1	58.4	-1.12E+03	1.17E+03
.10	-0.344	-112.	117.	-112.	117.	-1.12E+03	1.17E+03
.20	-0.688	-224.	233.	-224.	233.	-1.12E+03	1.17E+03
.40	-1.38	-448.	467.	-448.	466.	-1.12E+03	1.17E+03
.80	-2.75	-897.	934.	-896.	933.	-1.12E+03	1.17E+03

Table L–74. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	41.5	-7.87	90.3	-7.13	89.9	-972.	970.
.10	45.0	-55.6	143.	-54.1	143.	-991.	979.
.20	50.0	-151.	260.	-148.	260.	-990.	1.05E+03
.40	27.1	-422.	488.	-421.	488.	-1.12E+03	1.15E+03
.80	-43.7	-3.89E+03	964.	-1.57E+03	963.	-1.91E+03	1.26E+03

Table L–75. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

FREDYN							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $(F_x^{\text{ptot}})^*$ Min. (kN)	Filtered $(F_x^{\text{ptot}})^*$ Max. (kN)
.05	-21.4	-22.2	-20.5	-22.2	-20.5	-14.8	17.7
.10	-21.5	-22.2	-20.5	-22.2	-20.5	-6.20	9.85
.20	-21.3	-22.2	-20.0	-22.1	-20.0	-4.17	6.73
.40	-20.4	-23.2	-15.0	-23.2	-15.0	-7.11	13.3
.80	-18.0	-25.2	-5.40	-25.1	-5.42	-8.88	15.7

Table L–76. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-1							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $(F_x^{\text{ptot}})^*$ Min. (kN)	Filtered $(F_x^{\text{ptot}})^*$ Max. (kN)
.05	-332.	-386.	-278.	-386.	-278.	-1.08E+03	1.08E+03
.10	-332.	-439.	-224.	-439.	-224.	-1.07E+03	1.08E+03
.20	-330.	-545.	-114.	-545.	-115.	-1.07E+03	1.08E+03
.40	-326.	-754.	108.	-753.	107.	-1.07E+03	1.08E+03
.80	-308.	-1.16E+03	566.	-1.16E+03	566.	-1.06E+03	1.09E+03

Table L–77. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-3							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Max. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Min. (kN)	Max. (kN)
.05	-348.	-403.	-294.	-403.	-294.	-1.08E+03	1.09E+03
.10	-348.	-456.	-240.	-456.	-240.	-1.08E+03	1.08E+03
.20	-347.	-563.	-130.	-563.	-130.	-1.08E+03	1.08E+03
.40	-342.	-772.	93.7	-772.	93.5	-1.07E+03	1.09E+03
.80	-322.	-1.18E+03	554.	-1.18E+03	554.	-1.07E+03	1.09E+03

Table L–78. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-4							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Max. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Min. (kN)	Max. (kN)
.05	-339.	-467.	8.23	-454.	-129.	-2.29E+03	4.20E+03
.10	-331.	-603.	237.	-598.	3.12	-2.67E+03	3.34E+03
.20	-321.	-841.	540.	-797.	274.	-2.38E+03	2.98E+03
.40	-337.	-1.50E+03	810.	-1.30E+03	540.	-2.41E+03	2.19E+03
.80	-523.	-2.65E+03	1.35E+03	-2.53E+03	1.19E+03	-2.51E+03	2.14E+03

Table L–79. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NFA							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ **Mean (kN)**	**Unfiltered** F_x^{ptot} **Min. (kN)**	**Max. (kN)**	**Filtered** F_x^{ptot} **Min. (kN)**	**Max. (kN)**	**Filtered** $\left(F_x^{\text{ptot}}\right)^*$ **Min. (kN)**	**Max. (kN)**
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–80. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NSHIPMO							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ **Mean (kN)**	**Unfiltered** F_x^{ptot} **Min. (kN)**	**Max. (kN)**	**Filtered** F_x^{ptot} **Min. (kN)**	**Max. (kN)**	**Filtered** $\left(F_x^{\text{ptot}}\right)^*$ **Min. (kN)**	**Max. (kN)**
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

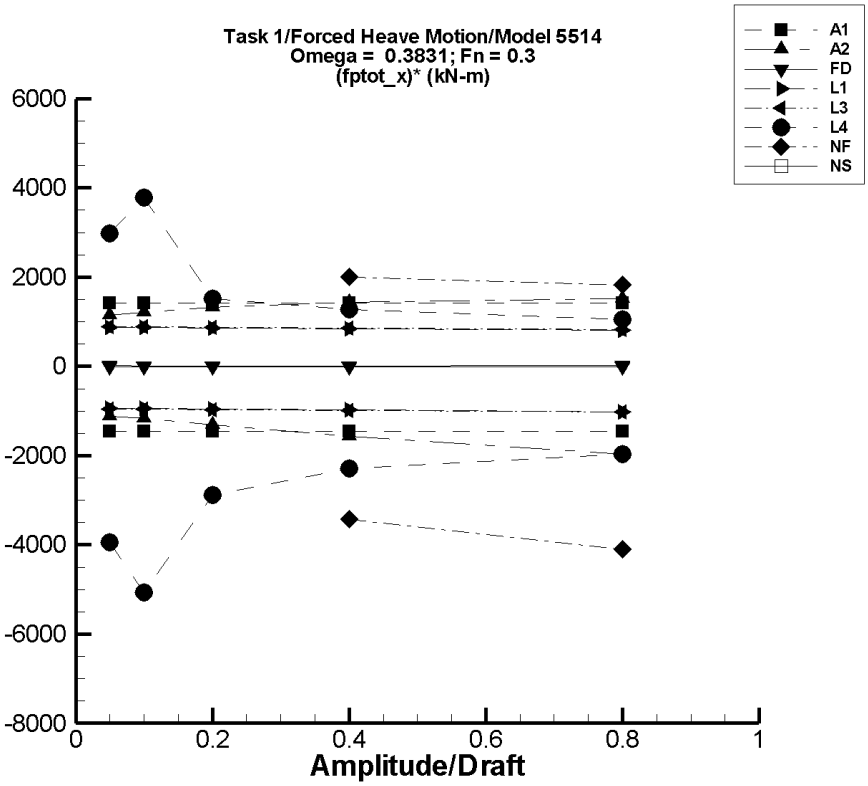

Figure L–11. Minimum and maximum of filtered $\left(F_x^{\text{ptot}} - \langle F_x^{\text{ptot}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–81. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle \boldsymbol{F_x^{\text{ptot}}} \rangle$	Unfiltered $\boldsymbol{F_x^{\text{ptot}}}$		Filtered $\boldsymbol{F_x^{\text{ptot}}}$		Filtered $\left(\boldsymbol{F_x^{\text{ptot}}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	1.52	-71.8	73.5	-71.5	72.7	-1.46E+03	1.42E+03
.10	3.04	-143.	147.	-143.	145.	-1.46E+03	1.42E+03
.20	6.08	-287.	294.	-285.	290.	-1.46E+03	1.42E+03
.40	12.2	-574.	587.	-571.	581.	-1.46E+03	1.42E+03
.80	24.3	-1.15E+03	1.17E+03	-1.14E+03	1.16E+03	-1.46E+03	1.42E+03

Table L–82. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle \boldsymbol{F_x^{\text{ptot}}} \rangle$	Unfiltered $\boldsymbol{F_x^{\text{ptot}}}$		Filtered $\boldsymbol{F_x^{\text{ptot}}}$		Filtered $\left(\boldsymbol{F_x^{\text{ptot}}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	43.2	-13.3	101.	-13.0	101.	-1.12E+03	1.15E+03
.10	48.4	-68.9	172.	-68.2	170.	-1.17E+03	1.22E+03
.20	53.3	-975.	322.	-207.	319.	-1.30E+03	1.33E+03
.40	40.7	-592.	622.	-589.	615.	-1.57E+03	1.44E+03
.80	-23.3	-4.31E+03	1.20E+03	-1.60E+03	1.19E+03	-1.97E+03	1.51E+03

Table L–83. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

FREDYN							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $(F_x^{\text{ptot}})^*$ Min. (kN)	Filtered $(F_x^{\text{ptot}})^*$ Max. (kN)
.05	-21.4	-22.2	-20.5	-22.2	-20.5	-14.7	17.6
.10	-21.5	-22.2	-20.5	-22.1	-20.6	-6.04	9.40
.20	-21.3	-22.2	-20.0	-22.1	-20.0	-3.82	6.72
.40	-20.4	-23.2	-15.0	-23.2	-15.1	-6.97	13.3
.80	-18.0	-25.2	-5.40	-25.0	-5.50	-8.78	15.6

Table L–84. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-1							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $(F_x^{\text{ptot}})^*$ Min. (kN)	Filtered $(F_x^{\text{ptot}})^*$ Max. (kN)
.05	-332.	-377.	-286.	-377.	-287.	-910.	901.
.10	-331.	-422.	-241.	-422.	-241.	-914.	895.
.20	-327.	-512.	-149.	-512.	-150.	-924.	886.
.40	-311.	-690.	37.1	-689.	36.4	-945.	870.
.80	-250.	-1.04E+03	427.	-1.04E+03	426.	-989.	844.

Table L–85. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-3							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $(F_x^{\text{ptot}})^*$ Min. (kN)	Filtered $(F_x^{\text{ptot}})^*$ Max. (kN)
.05	-348.	-395.	-302.	-394.	-302.	-928.	918.
.10	-347.	-440.	-256.	-440.	-256.	-931.	913.
.20	-343.	-531.	-162.	-530.	-162.	-937.	902.
.40	-327.	-713.	28.0	-713.	27.5	-963.	887.
.80	-264.	-1.06E+03	423.	-1.06E+03	422.	-996.	858.

Table L–86. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-4							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $(F_x^{\text{ptot}})^*$ Min. (kN)	Filtered $(F_x^{\text{ptot}})^*$ Max. (kN)
.05	-326.	-536.	23.6	-521.	-174.	-3.89E+03	3.04E+03
.10	-329.	-844.	358.	-828.	56.8	-5.00E+03	3.85E+03
.20	-301.	-907.	479.	-868.	14.8	-2.83E+03	1.58E+03
.40	-325.	-1.25E+03	435.	-1.22E+03	206.	-2.24E+03	1.33E+03
.80	-595.	-2.16E+03	600.	-2.14E+03	281.	-1.93E+03	1.09E+03

Table L–87. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NFA							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Max. (kN)	Filtered $(F_x^{\text{ptot}})^*$ Min. (kN)	Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	-502.	-1.19E+03	-9.48	-1.16E+03	-12.7	-3.28E+03	2.45E+03
.40	-699.	-2.10E+03	108.	-2.07E+03	99.9	-3.44E+03	2.00E+03
.80	-1.44E+03	-4.79E+03	28.2	-4.72E+03	11.9	-4.10E+03	1.81E+03

Table L–88. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NSHIPMO							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Max. (kN)	Filtered $(F_x^{\text{ptot}})^*$ Min. (kN)	Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

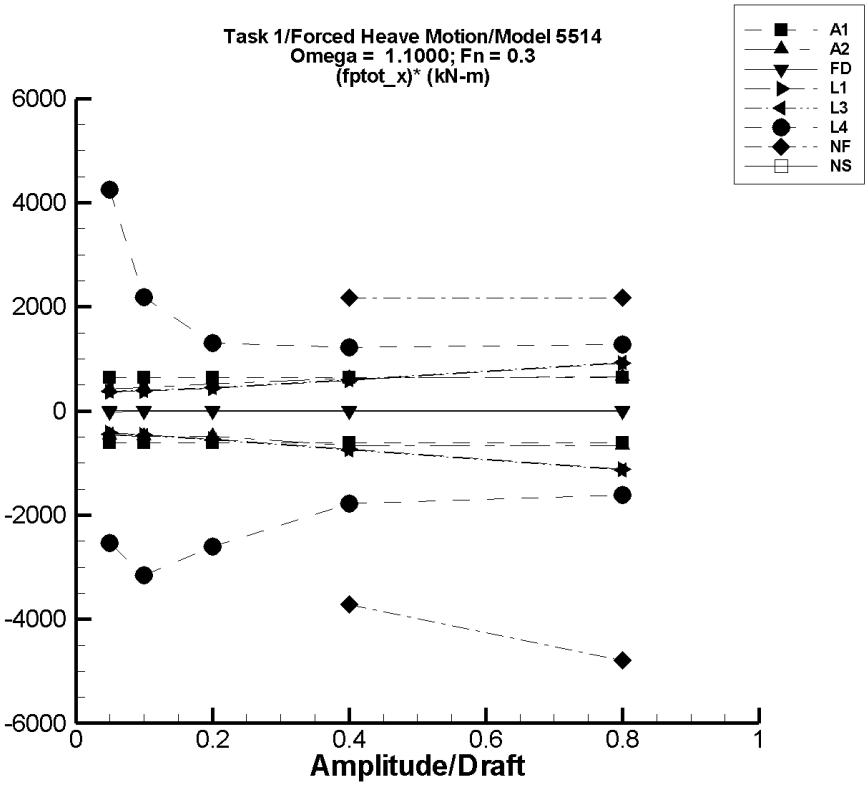

Figure L–12. Minimum and maximum of filtered $\left(F_x^{\text{ptot}} - \langle F_x^{\text{ptot}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–89. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-1							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Max. (kN)
.05	-1.81	-33.6	30.9	-32.6	30.1	-617.	637.
.10	-3.61	-67.1	61.7	-65.2	60.0	-616.	636.
.20	-7.22	-134.	123.	-130.	120.	-616.	636.
.40	-14.4	-268.	247.	-261.	240.	-616.	636.
.80	-28.9	-537.	494.	-521.	480.	-616.	636.

Table L–90. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-2							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Max. (kN)
.05	39.8	2.54	61.1	16.3	60.6	-470.	416.
.10	41.7	-26.3	87.3	-7.42	86.1	-492.	444.
.20	43.4	-73.7	152.	-54.5	147.	-489.	519.
.40	13.9	-268.	271.	-250.	266.	-659.	632.
.80	-20.1	-568.	522.	-553.	507.	-666.	659.

Table L–91. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

FREDYN							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $(F_x^{\text{ptot}})^*$ Min. (kN)	Filtered $(F_x^{\text{ptot}})^*$ Max. (kN)
.05	-21.4	-22.2	-20.5	-22.2	-20.6	-14.7	15.7
.10	-21.5	-22.2	-20.5	-22.0	-21.0	-4.87	5.11
.20	-21.3	-22.1	-20.0	-21.8	-20.1	-2.44	6.07
.40	-20.4	-23.2	-15.0	-23.1	-15.2	-6.81	12.9
.80	-18.0	-25.0	-5.40	-24.9	-5.92	-8.65	15.1

Table L–92. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-1							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $(F_x^{\text{ptot}})^*$ Min. (kN)	Filtered $(F_x^{\text{ptot}})^*$ Max. (kN)
.05	-330.	-351.	-311.	-351.	-311.	-417.	377.
.10	-327.	-373.	-287.	-372.	-288.	-452.	389.
.20	-313.	-422.	-221.	-420.	-223.	-534.	450.
.40	-258.	-551.	-6.41	-542.	-13.9	-711.	610.
.80	-37.7	-930.	765.	-899.	733.	-1.08E+03	964.

Table L–93. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-347.	-369.	-327.	-368.	-327.	-434.	392.
.10	-343.	-391.	-303.	-390.	-303.	-469.	401.
.20	-329.	-441.	-235.	-439.	-237.	-548.	459.
.40	-274.	-574.	-19.3	-566.	-26.7	-729.	618.
.80	-51.8	-950.	754.	-920.	722.	-1.09E+03	968.

Table L–94. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-299.	-475.	196.	-427.	-88.1	-2.56E+03	4.22E+03
.10	-246.	-574.	242.	-555.	-20.0	-3.09E+03	2.26E+03
.20	-189.	-770.	450.	-698.	85.5	-2.55E+03	1.37E+03
.40	-202.	-1.01E+03	876.	-893.	303.	-1.73E+03	1.26E+03
.80	55.1	-1.69E+03	2.16E+03	-1.21E+03	1.10E+03	-1.58E+03	1.31E+03

Table L–95. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NFA							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	-398.	-1.12E+03	101.	-1.06E+03	77.1	-3.31E+03	2.37E+03
.40	-466.	-2.12E+03	498.	-1.95E+03	401.	-3.72E+03	2.17E+03
.80	-834.	-5.19E+03	1.28E+03	-4.67E+03	900.	-4.79E+03	2.17E+03

Table L–96. Minimum and Maximum of Variables F_x^{ptot} and $(F_x^{\text{ptot}})^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NSHIPMO							
(z_a/T)	$\langle F_x^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_x^{ptot} Min. (kN)	Unfiltered F_x^{ptot} Max. (kN)	Filtered F_x^{ptot} Min. (kN)	Filtered F_x^{ptot} Max. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{ptot}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

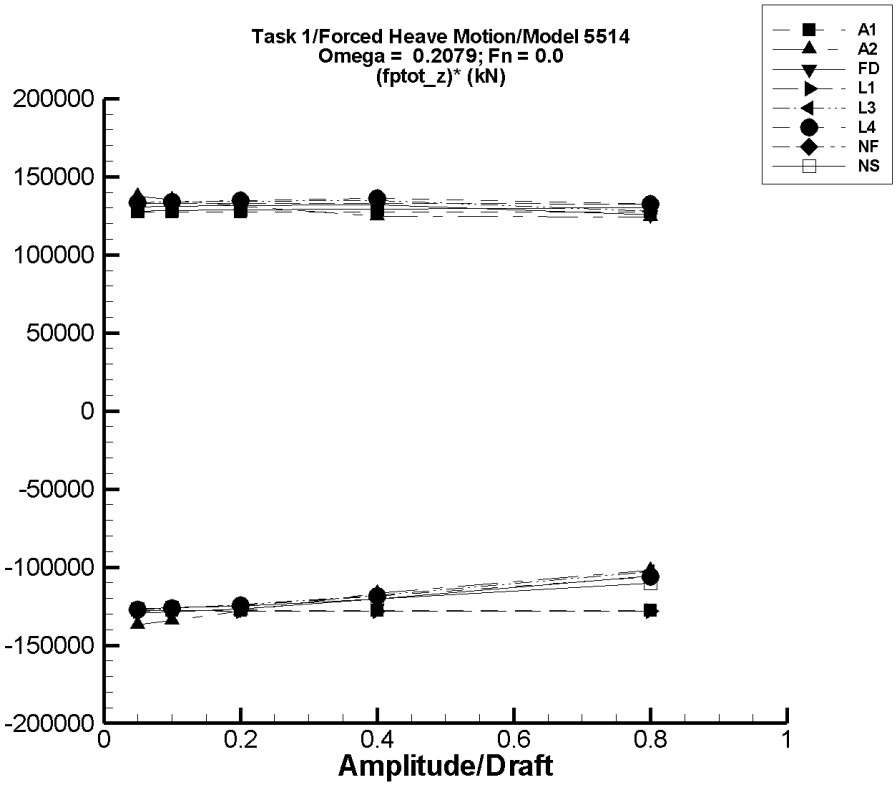

Figure L–13. Minimum and maximum of filtered $\left(F_z^{\text{ptot}} - \langle F_z^{\text{ptot}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–97. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $(F_z^{\text{ptot}})^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.20E+04	8.56E+04	9.83E+04	8.56E+04	9.83E+04	-1.28E+05	1.27E+05
.10	9.20E+04	7.92E+04	1.05E+05	7.92E+04	1.05E+05	-1.28E+05	1.27E+05
.20	9.20E+04	6.65E+04	1.17E+05	6.65E+04	1.17E+05	-1.28E+05	1.27E+05
.40	9.20E+04	4.10E+04	1.43E+05	4.09E+04	1.43E+05	-1.28E+05	1.27E+05
.80	9.20E+04	-9.95E+03	1.94E+05	-1.01E+04	1.94E+05	-1.28E+05	1.27E+05

Table L–98. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $(F_z^{\text{ptot}})^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.20E+04	8.52E+04	9.89E+04	8.51E+04	9.89E+04	-1.37E+05	1.37E+05
.10	9.20E+04	7.86E+04	1.06E+05	7.86E+04	1.06E+05	-1.34E+05	1.35E+05
.20	9.23E+04	6.67E+04	1.19E+05	6.67E+04	1.18E+05	-1.28E+05	1.31E+05
.40	9.33E+04	4.67E+04	1.43E+05	4.66E+04	1.43E+05	-1.17E+05	1.25E+05
.80	9.97E+04	1.82E+04	1.99E+05	1.81E+04	1.99E+05	-1.02E+05	1.24E+05

Table L–99. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $(F_z^{\text{ptot}})^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.20E+04	8.56E+04	9.86E+04	8.56E+04	9.86E+04	-1.29E+05	1.31E+05
.10	9.21E+04	7.92E+04	1.05E+05	7.93E+04	1.05E+05	-1.29E+05	1.31E+05
.20	9.25E+04	6.71E+04	1.19E+05	6.72E+04	1.19E+05	-1.27E+05	1.32E+05
.40	9.42E+04	4.60E+04	1.47E+05	4.60E+04	1.47E+05	-1.20E+05	1.32E+05
.80	1.01E+05	1.63E+04	2.01E+05	1.63E+04	2.01E+05	-1.06E+05	1.25E+05

Table L–100. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $(F_z^{\text{ptot}})^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.18E+04	8.53E+04	9.83E+04	8.53E+04	9.83E+04	-1.31E+05	1.31E+05
.10	9.18E+04	7.87E+04	1.05E+05	7.88E+04	1.05E+05	-1.30E+05	1.30E+05
.20	9.18E+04	6.57E+04	1.18E+05	6.57E+04	1.18E+05	-1.30E+05	1.30E+05
.40	9.18E+04	3.96E+04	1.44E+05	3.96E+04	1.44E+05	-1.31E+05	1.30E+05
.80	9.20E+04	-1.26E+04	1.96E+05	-1.25E+04	1.96E+05	-1.31E+05	1.30E+05

Table L–101. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle \boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	9.18E+04	8.53E+04	9.84E+04	8.53E+04	9.84E+04	-1.30E+05	1.31E+05
.10	9.19E+04	7.90E+04	1.05E+05	7.90E+04	1.05E+05	-1.29E+05	1.31E+05
.20	9.23E+04	6.69E+04	1.19E+05	6.69E+04	1.19E+05	-1.27E+05	1.32E+05
.40	9.40E+04	4.57E+04	1.47E+05	4.57E+04	1.47E+05	-1.21E+05	1.32E+05
.80	1.01E+05	1.63E+04	2.01E+05	1.63E+04	2.01E+05	-1.06E+05	1.25E+05

Table L–102. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle \boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	9.18E+04	8.53E+04	9.84E+04	8.53E+04	9.84E+04	-1.30E+05	1.31E+05
.10	9.19E+04	7.90E+04	1.05E+05	7.90E+04	1.05E+05	-1.29E+05	1.31E+05
.20	9.22E+04	6.68E+04	1.19E+05	6.68E+04	1.19E+05	-1.27E+05	1.32E+05
.40	9.37E+04	4.52E+04	1.47E+05	4.52E+04	1.47E+05	-1.21E+05	1.34E+05
.80	9.95E+04	1.24E+04	2.03E+05	1.24E+04	2.03E+05	-1.09E+05	1.30E+05

Table L–103. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NFA							
(z_a/T)	$\langle F_z^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_z^{ptot} Min. (kN)	Max. (kN)	Filtered F_z^{ptot} Min. (kN)	Max. (kN)	Filtered $(F_z^{\text{ptot}})^*$ Min. (kN)	Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–104. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NSHIPMO							
(z_a/T)	$\langle F_z^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_z^{ptot} Min. (kN)	Max. (kN)	Filtered F_z^{ptot} Min. (kN)	Max. (kN)	Filtered $(F_z^{\text{ptot}})^*$ Min. (kN)	Max. (kN)
.05	9.20E+04	8.56E+04	9.85E+04	8.57E+04	9.84E+04	-1.27E+05	1.28E+05
.10	9.21E+04	7.93E+04	1.05E+05	7.95E+04	1.05E+05	-1.26E+05	1.28E+05
.20	9.24E+04	6.72E+04	1.18E+05	6.74E+04	1.18E+05	-1.25E+05	1.29E+05
.40	9.39E+04	4.53E+04	1.46E+05	4.57E+04	1.46E+05	-1.20E+05	1.29E+05
.80	1.00E+05	1.19E+04	2.05E+05	1.22E+04	2.04E+05	-1.10E+05	1.30E+05

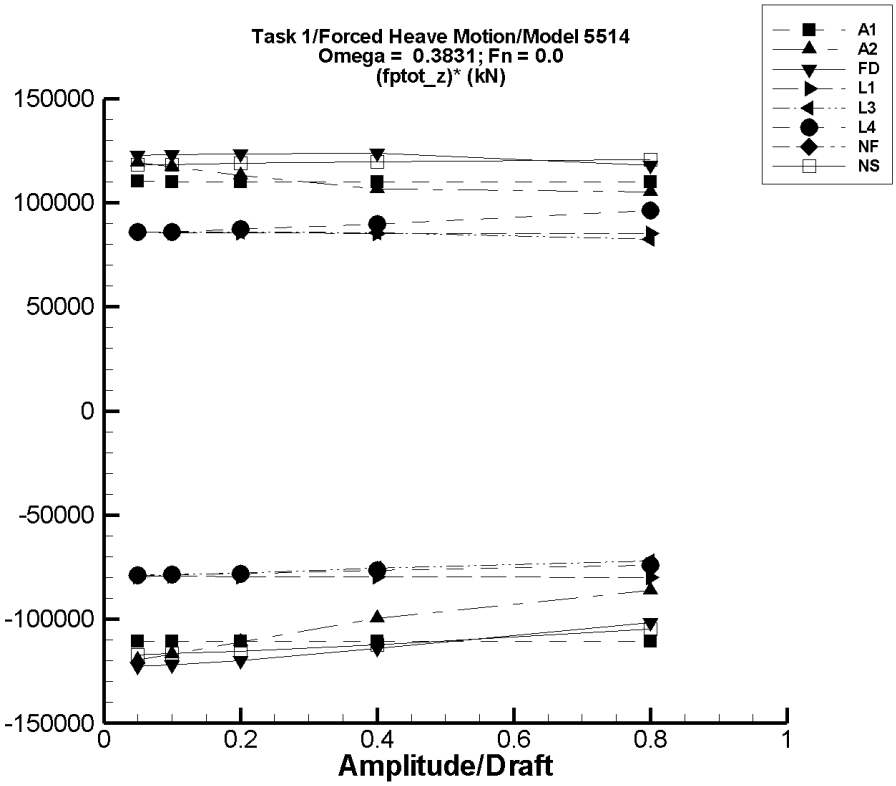

Figure L–14. Minimum and maximum of filtered $\left(F_z^{\text{ptot}} - \langle F_z^{\text{ptot}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–105. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.20E+04	8.64E+04	9.75E+04	8.64E+04	9.75E+04	-1.11E+05	1.10E+05
.10	9.20E+04	8.09E+04	1.03E+05	8.09E+04	1.03E+05	-1.11E+05	1.10E+05
.20	9.20E+04	6.98E+04	1.14E+05	6.99E+04	1.14E+05	-1.11E+05	1.10E+05
.40	9.20E+04	4.75E+04	1.36E+05	4.78E+04	1.36E+05	-1.11E+05	1.10E+05
.80	9.20E+04	3.13E+03	1.80E+05	3.57E+03	1.80E+05	-1.11E+05	1.10E+05

Table L–106. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.20E+04	8.60E+04	9.80E+04	8.60E+04	9.80E+04	-1.20E+05	1.19E+05
.10	9.20E+04	8.04E+04	1.04E+05	8.04E+04	1.04E+05	-1.17E+05	1.17E+05
.20	9.23E+04	7.01E+04	1.15E+05	7.01E+04	1.15E+05	-1.11E+05	1.13E+05
.40	9.33E+04	5.32E+04	1.36E+05	5.35E+04	1.36E+05	-9.96E+04	1.07E+05
.80	9.97E+04	2.95E+04	1.85E+05	3.06E+04	1.84E+05	-8.64E+04	1.05E+05

Table L–107. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

FREDYN							
(z_a/T)	$\langle F_z^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_z^{ptot} Min. (kN)	Unfiltered F_z^{ptot} Max. (kN)	Filtered F_z^{ptot} Min. (kN)	Filtered F_z^{ptot} Max. (kN)	Filtered $(F_z^{\text{ptot}})^*$ Min. (kN)	Filtered $(F_z^{\text{ptot}})^*$ Max. (kN)
.05	9.20E+04	8.59E+04	9.82E+04	8.59E+04	9.82E+04	-1.22E+05	1.23E+05
.10	9.21E+04	7.99E+04	1.05E+05	8.00E+04	1.04E+05	-1.21E+05	1.23E+05
.20	9.25E+04	6.85E+04	1.17E+05	6.86E+04	1.17E+05	-1.19E+05	1.24E+05
.40	9.42E+04	4.85E+04	1.44E+05	4.87E+04	1.44E+05	-1.14E+05	1.24E+05
.80	1.01E+05	1.95E+04	1.96E+05	1.97E+04	1.95E+05	-1.01E+05	1.18E+05

Table L–108. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-1							
(z_a/T)	$\langle F_z^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_z^{ptot} Min. (kN)	Unfiltered F_z^{ptot} Max. (kN)	Filtered F_z^{ptot} Min. (kN)	Filtered F_z^{ptot} Max. (kN)	Filtered $(F_z^{\text{ptot}})^*$ Min. (kN)	Filtered $(F_z^{\text{ptot}})^*$ Max. (kN)
.05	9.18E+04	8.77E+04	9.59E+04	8.77E+04	9.59E+04	-8.27E+04	8.26E+04
.10	9.18E+04	8.35E+04	1.00E+05	8.36E+04	1.00E+05	-8.26E+04	8.25E+04
.20	9.19E+04	7.53E+04	1.08E+05	7.53E+04	1.08E+05	-8.26E+04	8.24E+04
.40	9.21E+04	5.89E+04	1.25E+05	5.89E+04	1.25E+05	-8.28E+04	8.23E+04
.80	9.28E+04	2.62E+04	1.59E+05	2.63E+04	1.58E+05	-8.31E+04	8.20E+04

Table L–109. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle \boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	9.18E+04	8.77E+04	9.60E+04	8.77E+04	9.60E+04	-8.23E+04	8.28E+04
.10	9.19E+04	8.37E+04	1.00E+05	8.37E+04	1.00E+05	-8.19E+04	8.28E+04
.20	9.23E+04	7.61E+04	1.09E+05	7.61E+04	1.09E+05	-8.10E+04	8.28E+04
.40	9.42E+04	6.27E+04	1.27E+05	6.27E+04	1.27E+05	-7.88E+04	8.22E+04
.80	1.01E+05	4.12E+04	1.65E+05	4.13E+04	1.65E+05	-7.52E+04	7.95E+04

Table L–110. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle \boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	9.18E+04	8.77E+04	9.59E+04	8.77E+04	9.59E+04	-8.20E+04	8.27E+04
.10	9.18E+04	8.36E+04	1.00E+05	8.36E+04	1.00E+05	-8.17E+04	8.29E+04
.20	9.19E+04	7.55E+04	1.09E+05	7.56E+04	1.09E+05	-8.13E+04	8.41E+04
.40	9.21E+04	6.01E+04	1.27E+05	6.03E+04	1.27E+05	-7.96E+04	8.64E+04
.80	9.24E+04	3.01E+04	1.68E+05	3.07E+04	1.67E+05	-7.71E+04	9.32E+04

Table L–111. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NFA							
(z_a/T)	$\langle F_z^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_z^{ptot} Min. (kN)	Unfiltered F_z^{ptot} Max. (kN)	Filtered F_z^{ptot} Min. (kN)	Filtered F_z^{ptot} Max. (kN)	Filtered $(F_z^{\text{ptot}})^*$ Min. (kN)	Filtered $(F_z^{\text{ptot}})^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–112. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NSHIPMO							
(z_a/T)	$\langle F_z^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_z^{ptot} Min. (kN)	Unfiltered F_z^{ptot} Max. (kN)	Filtered F_z^{ptot} Min. (kN)	Filtered F_z^{ptot} Max. (kN)	Filtered $(F_z^{\text{ptot}})^*$ Min. (kN)	Filtered $(F_z^{\text{ptot}})^*$ Max. (kN)
.05	9.20E+04	8.61E+04	9.80E+04	8.61E+04	9.79E+04	-1.17E+05	1.18E+05
.10	9.21E+04	8.03E+04	1.04E+05	8.04E+04	1.04E+05	-1.16E+05	1.18E+05
.20	9.24E+04	6.90E+04	1.16E+05	6.93E+04	1.16E+05	-1.16E+05	1.19E+05
.40	9.37E+04	4.84E+04	1.42E+05	4.88E+04	1.42E+05	-1.12E+05	1.20E+05
.80	9.94E+04	1.53E+04	1.96E+05	1.56E+04	1.96E+05	-1.05E+05	1.21E+05

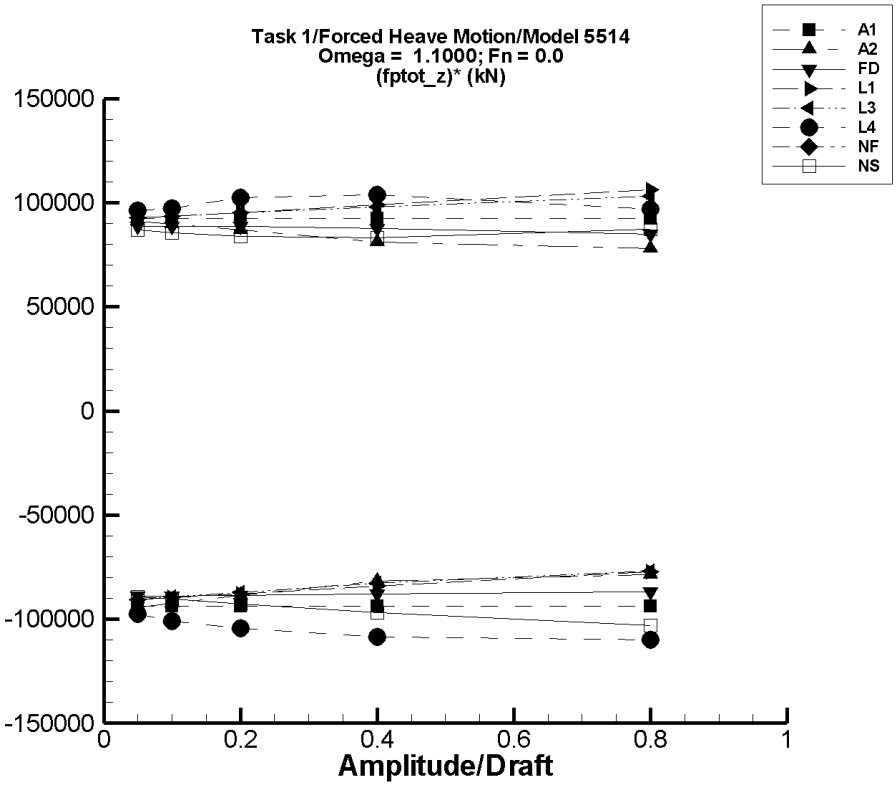

Figure L–15. Minimum and maximum of filtered $\left(F_z^{\text{ptot}} - \langle F_z^{\text{ptot}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–113. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-1							
(z_a/T)	$\langle F_z^{\text{ptot}} \rangle$ **Mean (kN)**	**Unfiltered** F_z^{ptot} **Min. (kN)**	**Max. (kN)**	**Filtered** F_z^{ptot} **Min. (kN)**	**Max. (kN)**	**Filtered** $\left(F_z^{\text{ptot}}\right)^*$ **Min. (kN)**	**Max. (kN)**
.05	9.20E+04	8.69E+04	9.67E+04	8.73E+04	9.66E+04	-9.37E+04	9.27E+04
.10	9.20E+04	8.18E+04	1.01E+05	8.26E+04	1.01E+05	-9.36E+04	9.25E+04
.20	9.19E+04	7.16E+04	1.11E+05	7.32E+04	1.10E+05	-9.36E+04	9.25E+04
.40	9.19E+04	5.12E+04	1.30E+05	5.45E+04	1.29E+05	-9.36E+04	9.25E+04
.80	9.19E+04	1.05E+04	1.68E+05	1.70E+04	1.66E+05	-9.36E+04	9.25E+04

Table L–114. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-2							
(z_a/T)	$\langle F_z^{\text{ptot}} \rangle$ **Mean (kN)**	**Unfiltered** F_z^{ptot} **Min. (kN)**	**Max. (kN)**	**Filtered** F_z^{ptot} **Min. (kN)**	**Max. (kN)**	**Filtered** $\left(F_z^{\text{ptot}}\right)^*$ **Min. (kN)**	**Max. (kN)**
.05	9.20E+04	8.68E+04	9.67E+04	8.73E+04	9.65E+04	-9.44E+04	9.13E+04
.10	9.20E+04	8.20E+04	1.01E+05	8.28E+04	1.01E+05	-9.23E+04	8.98E+04
.20	9.22E+04	7.32E+04	1.10E+05	7.46E+04	1.10E+05	-8.84E+04	8.70E+04
.40	9.33E+04	5.69E+04	1.27E+05	6.06E+04	1.26E+05	-8.17E+04	8.12E+04
.80	9.99E+04	2.91E+04	1.66E+05	3.71E+04	1.62E+05	-7.84E+04	7.82E+04

Table L–115. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

FREDYN							
(z_a/T)	$\langle F_z^{\text{ptot}} \rangle$ **Mean (kN)**	**Unfiltered** F_z^{ptot} **Min. (kN)**	**Max. (kN)**	**Filtered** F_z^{ptot} **Min. (kN)**	**Max. (kN)**	**Filtered** $\left(F_z^{\text{ptot}}\right)^*$ **Min. (kN)**	**Max. (kN)**
.05	9.20E+04	8.75E+04	9.66E+04	8.76E+04	9.65E+04	-8.88E+04	8.87E+04
.10	9.21E+04	8.30E+04	1.01E+05	8.33E+04	1.01E+05	-8.87E+04	8.87E+04
.20	9.25E+04	7.42E+04	1.11E+05	7.48E+04	1.10E+05	-8.85E+04	8.85E+04
.40	9.42E+04	5.76E+04	1.30E+05	5.89E+04	1.29E+05	-8.81E+04	8.74E+04
.80	1.01E+05	2.73E+04	1.72E+05	3.08E+04	1.68E+05	-8.73E+04	8.42E+04

Table L–116. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-1							
(z_a/T)	$\langle F_z^{\text{ptot}} \rangle$ **Mean (kN)**	**Unfiltered** F_z^{ptot} **Min. (kN)**	**Max. (kN)**	**Filtered** F_z^{ptot} **Min. (kN)**	**Max. (kN)**	**Filtered** $\left(F_z^{\text{ptot}}\right)^*$ **Min. (kN)**	**Max. (kN)**
.05	9.18E+04	8.72E+04	9.64E+04	8.72E+04	9.64E+04	-9.11E+04	9.24E+04
.10	9.17E+04	8.26E+04	1.01E+05	8.27E+04	1.01E+05	-9.00E+04	9.31E+04
.20	9.15E+04	7.37E+04	1.11E+05	7.39E+04	1.10E+05	-8.82E+04	9.49E+04
.40	9.07E+04	5.65E+04	1.31E+05	5.68E+04	1.30E+05	-8.46E+04	9.86E+04
.80	8.73E+04	2.49E+04	1.73E+05	2.53E+04	1.72E+05	-7.76E+04	1.06E+05

Table L–117. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $(F_z^{\text{ptot}})^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.18E+04	8.72E+04	9.65E+04	8.72E+04	9.64E+04	-9.09E+04	9.24E+04
.10	9.18E+04	8.27E+04	1.01E+05	8.28E+04	1.01E+05	-8.98E+04	9.31E+04
.20	9.20E+04	7.43E+04	1.11E+05	7.44E+04	1.11E+05	-8.77E+04	9.48E+04
.40	9.28E+04	5.91E+04	1.32E+05	5.94E+04	1.32E+05	-8.35E+04	9.73E+04
.80	9.60E+04	3.27E+04	1.80E+05	3.38E+04	1.78E+05	-7.78E+04	1.02E+05

Table L–118. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $(F_z^{\text{ptot}})^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.18E+04	8.67E+04	9.67E+04	8.69E+04	9.66E+04	-9.78E+04	9.60E+04
.10	9.18E+04	8.08E+04	1.02E+05	8.16E+04	1.01E+05	-1.01E+05	9.72E+04
.20	9.19E+04	6.94E+04	1.14E+05	7.10E+04	1.12E+05	-1.04E+05	1.02E+05
.40	9.25E+04	4.73E+04	1.37E+05	4.91E+04	1.34E+05	-1.08E+05	1.04E+05
.80	9.52E+04	5.04E+03	1.81E+05	7.89E+03	1.73E+05	-1.09E+05	9.77E+04

Table L–119. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NFA							
(z_a/T)	$\langle F_z^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_z^{ptot} Min. (kN)	Max. (kN)	Filtered F_z^{ptot} Min. (kN)	Max. (kN)	Filtered $(F_z^{\text{ptot}})^*$ Min. (kN)	Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–120. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NSHIPMO							
(z_a/T)	$\langle F_z^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_z^{ptot} Min. (kN)	Max. (kN)	Filtered F_z^{ptot} Min. (kN)	Max. (kN)	Filtered $(F_z^{\text{ptot}})^*$ Min. (kN)	Max. (kN)
.05	9.19E+04	8.74E+04	9.63E+04	8.75E+04	9.63E+04	-8.93E+04	8.69E+04
.10	9.19E+04	8.28E+04	1.01E+05	8.29E+04	1.01E+05	-9.02E+04	8.57E+04
.20	9.20E+04	7.32E+04	1.09E+05	7.34E+04	1.09E+05	-9.26E+04	8.40E+04
.40	9.20E+04	5.27E+04	1.26E+05	5.33E+04	1.25E+05	-9.67E+04	8.30E+04
.80	9.26E+04	9.36E+03	1.66E+05	1.02E+04	1.62E+05	-1.03E+05	8.72E+04

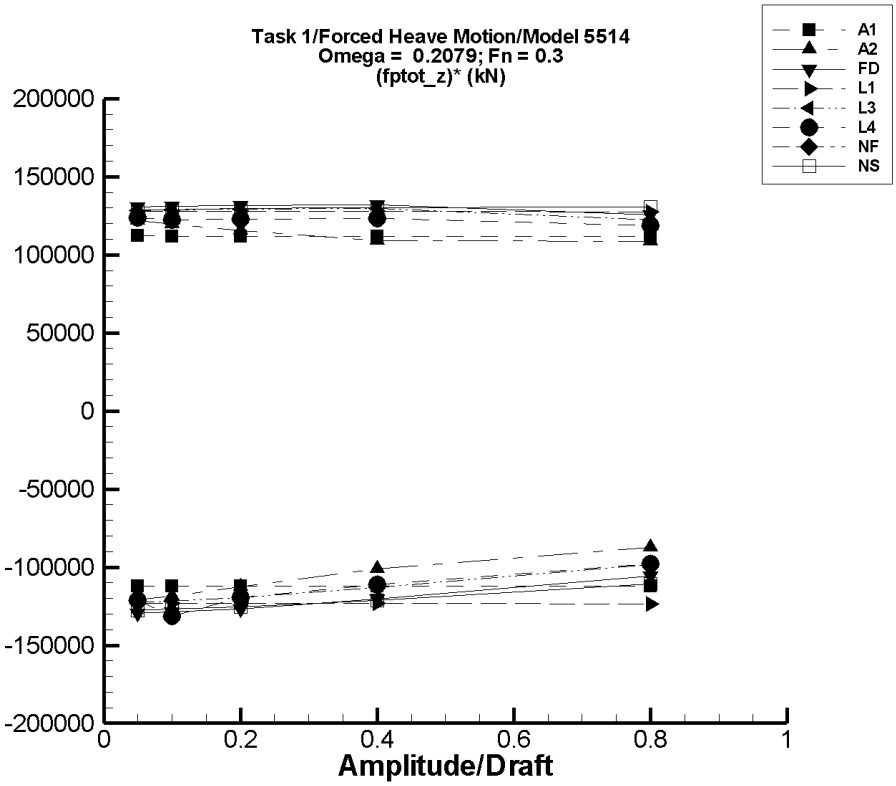

Figure L–16. Minimum and maximum of filtered $\left(F_z^{\text{ptot}} - \langle F_z^{\text{ptot}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–121. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.20E+04	8.63E+04	9.76E+04	8.63E+04	9.76E+04	-1.12E+05	1.12E+05
.10	9.19E+04	8.07E+04	1.03E+05	8.07E+04	1.03E+05	-1.12E+05	1.12E+05
.20	9.19E+04	6.95E+04	1.14E+05	6.95E+04	1.14E+05	-1.12E+05	1.12E+05
.40	9.19E+04	4.70E+04	1.37E+05	4.71E+04	1.37E+05	-1.12E+05	1.12E+05
.80	9.18E+04	2.09E+03	1.82E+05	2.19E+03	1.81E+05	-1.12E+05	1.12E+05

Table L–122. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.20E+04	8.59E+04	9.81E+04	8.59E+04	9.81E+04	-1.21E+05	1.22E+05
.10	9.20E+04	8.02E+04	1.04E+05	8.02E+04	1.04E+05	-1.18E+05	1.20E+05
.20	9.22E+04	6.97E+04	1.15E+05	6.97E+04	1.15E+05	-1.12E+05	1.16E+05
.40	9.32E+04	5.27E+04	1.37E+05	5.27E+04	1.37E+05	-1.01E+05	1.09E+05
.80	9.96E+04	2.86E+04	1.86E+05	2.96E+04	1.86E+05	-8.75E+04	1.08E+05

Table L–123. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $(F_z^{\text{ptot}})^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.20E+04	8.56E+04	9.86E+04	8.56E+04	9.86E+04	-1.29E+05	1.31E+05
.10	9.21E+04	7.92E+04	1.05E+05	7.93E+04	1.05E+05	-1.29E+05	1.31E+05
.20	9.25E+04	6.71E+04	1.19E+05	6.72E+04	1.19E+05	-1.27E+05	1.32E+05
.40	9.42E+04	4.60E+04	1.47E+05	4.60E+04	1.47E+05	-1.20E+05	1.32E+05
.80	1.01E+05	1.63E+04	2.01E+05	1.63E+04	2.01E+05	-1.06E+05	1.25E+05

Table L–124. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $(F_z^{\text{ptot}})^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	8.71E+04	8.08E+04	9.33E+04	8.08E+04	9.33E+04	-1.26E+05	1.26E+05
.10	8.71E+04	7.45E+04	9.96E+04	7.45E+04	9.96E+04	-1.26E+05	1.25E+05
.20	8.71E+04	6.19E+04	1.12E+05	6.20E+04	1.12E+05	-1.26E+05	1.25E+05
.40	8.71E+04	3.68E+04	1.37E+05	3.68E+04	1.37E+05	-1.26E+05	1.25E+05
.80	8.73E+04	-1.34E+04	1.87E+05	-1.34E+04	1.87E+05	-1.26E+05	1.25E+05

Table L–125. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle \boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	8.71E+04	8.08E+04	9.34E+04	8.08E+04	9.34E+04	-1.25E+05	1.26E+05
.10	8.72E+04	7.47E+04	9.98E+04	7.47E+04	9.98E+04	-1.24E+05	1.26E+05
.20	8.75E+04	6.31E+04	1.13E+05	6.31E+04	1.13E+05	-1.22E+05	1.27E+05
.40	8.93E+04	4.29E+04	1.40E+05	4.30E+04	1.40E+05	-1.16E+05	1.27E+05
.80	9.60E+04	1.54E+04	1.92E+05	1.54E+04	1.92E+05	-1.01E+05	1.20E+05

Table L–126. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle \boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	8.71E+04	8.09E+04	9.32E+04	8.09E+04	9.31E+04	-1.24E+05	1.21E+05
.10	8.71E+04	7.37E+04	9.91E+04	7.38E+04	9.91E+04	-1.34E+05	1.20E+05
.20	8.74E+04	6.29E+04	1.11E+05	6.30E+04	1.11E+05	-1.22E+05	1.20E+05
.40	8.88E+04	4.33E+04	1.37E+05	4.34E+04	1.37E+05	-1.14E+05	1.21E+05
.80	9.40E+04	1.35E+04	1.87E+05	1.38E+04	1.87E+05	-1.00E+05	1.16E+05

Table L–127. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NFA							
(z_a/T)	$\langle F_z^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_z^{ptot} Min. (kN)	Unfiltered F_z^{ptot} Max. (kN)	Filtered F_z^{ptot} Min. (kN)	Filtered F_z^{ptot} Max. (kN)	Filtered $(F_z^{\text{ptot}})^*$ Min. (kN)	Filtered $(F_z^{\text{ptot}})^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–128. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NSHIPMO							
(z_a/T)	$\langle F_z^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_z^{ptot} Min. (kN)	Unfiltered F_z^{ptot} Max. (kN)	Filtered F_z^{ptot} Min. (kN)	Filtered F_z^{ptot} Max. (kN)	Filtered $(F_z^{\text{ptot}})^*$ Min. (kN)	Filtered $(F_z^{\text{ptot}})^*$ Max. (kN)
.05	9.20E+04	8.55E+04	9.85E+04	8.56E+04	9.84E+04	-1.28E+05	1.29E+05
.10	9.21E+04	7.92E+04	1.05E+05	7.94E+04	1.05E+05	-1.27E+05	1.29E+05
.20	9.24E+04	6.70E+04	1.19E+05	6.73E+04	1.18E+05	-1.26E+05	1.30E+05
.40	9.39E+04	4.49E+04	1.46E+05	4.54E+04	1.46E+05	-1.21E+05	1.30E+05
.80	1.00E+05	1.15E+04	2.06E+05	1.18E+04	2.05E+05	-1.11E+05	1.31E+05

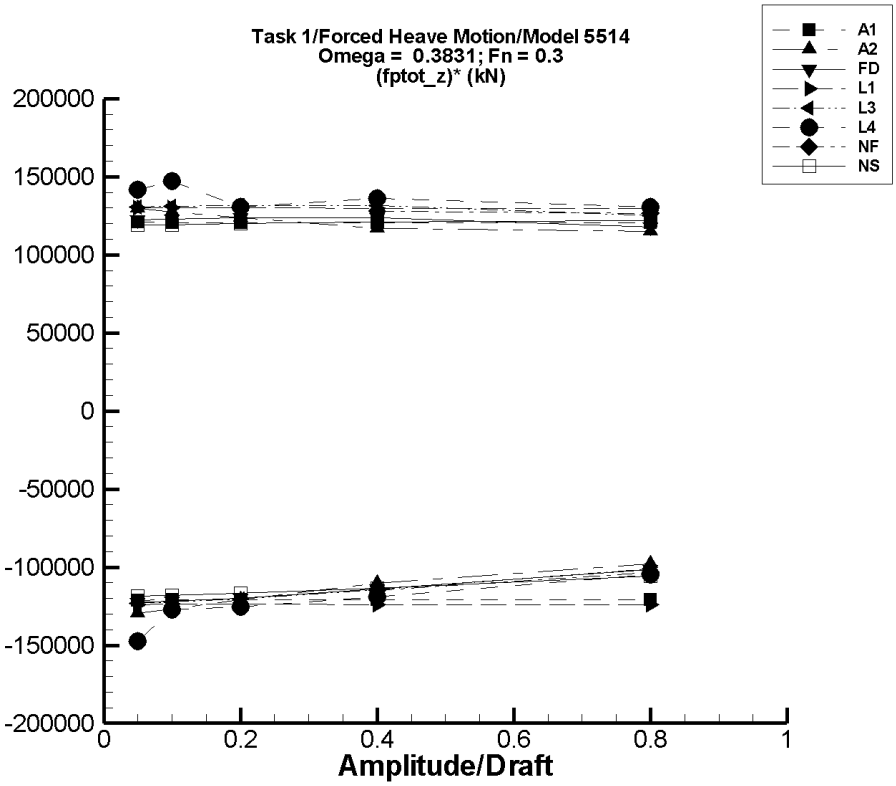

Figure L–17. Minimum and maximum of filtered $\left(F_z^{\text{ptot}} - \langle F_z^{\text{ptot}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–129. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle F_z^{\text{ptot}} \rangle$	**Unfiltered** F_z^{ptot}		**Filtered** F_z^{ptot}		**Filtered** $\left(F_z^{\text{ptot}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	9.20E+04	8.59E+04	9.80E+04	8.59E+04	9.80E+04	-1.21E+05	1.21E+05
.10	9.20E+04	7.98E+04	1.04E+05	7.98E+04	1.04E+05	-1.21E+05	1.21E+05
.20	9.20E+04	6.76E+04	1.16E+05	6.77E+04	1.16E+05	-1.21E+05	1.21E+05
.40	9.19E+04	4.33E+04	1.40E+05	4.35E+04	1.40E+05	-1.21E+05	1.21E+05
.80	9.19E+04	-5.42E+03	1.89E+05	-5.02E+03	1.88E+05	-1.21E+05	1.21E+05

Table L–130. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle F_z^{\text{ptot}} \rangle$	**Unfiltered** F_z^{ptot}		**Filtered** F_z^{ptot}		**Filtered** $\left(F_z^{\text{ptot}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	9.20E+04	8.55E+04	9.85E+04	8.55E+04	9.85E+04	-1.30E+05	1.29E+05
.10	9.20E+04	7.93E+04	1.05E+05	7.93E+04	1.05E+05	-1.27E+05	1.27E+05
.20	9.22E+04	6.79E+04	1.17E+05	6.80E+04	1.17E+05	-1.21E+05	1.23E+05
.40	9.33E+04	4.90E+04	1.40E+05	4.92E+04	1.40E+05	-1.10E+05	1.17E+05
.80	9.96E+04	2.11E+04	1.93E+05	2.13E+04	1.92E+05	-9.79E+04	1.15E+05

Table L–131. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

FREDYN							
(z_a/T)	$\langle F_z^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_z^{ptot} Min. (kN)	Unfiltered F_z^{ptot} Max. (kN)	Filtered F_z^{ptot} Min. (kN)	Filtered F_z^{ptot} Max. (kN)	Filtered $(F_z^{\text{ptot}})^*$ Min. (kN)	Filtered $(F_z^{\text{ptot}})^*$ Max. (kN)
.05	9.20E+04	8.59E+04	9.82E+04	8.59E+04	9.82E+04	-1.22E+05	1.23E+05
.10	9.21E+04	7.99E+04	1.05E+05	8.00E+04	1.04E+05	-1.21E+05	1.23E+05
.20	9.25E+04	6.85E+04	1.17E+05	6.86E+04	1.17E+05	-1.19E+05	1.24E+05
.40	9.42E+04	4.85E+04	1.44E+05	4.87E+04	1.44E+05	-1.14E+05	1.24E+05
.80	1.01E+05	1.95E+04	1.96E+05	1.97E+04	1.95E+05	-1.01E+05	1.18E+05

Table L–132. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-1							
(z_a/T)	$\langle F_z^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_z^{ptot} Min. (kN)	Unfiltered F_z^{ptot} Max. (kN)	Filtered F_z^{ptot} Min. (kN)	Filtered F_z^{ptot} Max. (kN)	Filtered $(F_z^{\text{ptot}})^*$ Min. (kN)	Filtered $(F_z^{\text{ptot}})^*$ Max. (kN)
.05	8.71E+04	8.07E+04	9.34E+04	8.07E+04	9.34E+04	-1.27E+05	1.27E+05
.10	8.71E+04	7.43E+04	9.98E+04	7.44E+04	9.97E+04	-1.27E+05	1.27E+05
.20	8.71E+04	6.16E+04	1.12E+05	6.17E+04	1.12E+05	-1.27E+05	1.27E+05
.40	8.72E+04	3.62E+04	1.38E+05	3.63E+04	1.38E+05	-1.27E+05	1.27E+05
.80	8.76E+04	-1.45E+04	1.89E+05	-1.44E+04	1.89E+05	-1.27E+05	1.26E+05

Table L–133. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle \boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	8.71E+04	8.07E+04	9.35E+04	8.07E+04	9.34E+04	-1.27E+05	1.27E+05
.10	8.72E+04	7.46E+04	9.99E+04	7.46E+04	9.99E+04	-1.26E+05	1.28E+05
.20	8.75E+04	6.28E+04	1.13E+05	6.28E+04	1.13E+05	-1.24E+05	1.28E+05
.40	8.93E+04	4.21E+04	1.41E+05	4.22E+04	1.41E+05	-1.18E+05	1.28E+05
.80	9.62E+04	1.25E+04	1.94E+05	1.25E+04	1.94E+05	-1.05E+05	1.22E+05

Table L–134. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle \boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	8.71E+04	7.94E+04	9.42E+04	7.96E+04	9.40E+04	-1.51E+05	1.38E+05
.10	8.71E+04	7.41E+04	1.02E+05	7.41E+04	1.01E+05	-1.30E+05	1.44E+05
.20	8.74E+04	6.15E+04	1.13E+05	6.17E+04	1.13E+05	-1.29E+05	1.27E+05
.40	8.88E+04	3.97E+04	1.42E+05	3.99E+04	1.42E+05	-1.22E+05	1.33E+05
.80	9.50E+04	8.20E+03	1.98E+05	8.63E+03	1.97E+05	-1.08E+05	1.27E+05

Table L–135. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NFA							
(z_a/T)	$\langle F_z^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_z^{ptot} Min. (kN)	Unfiltered F_z^{ptot} Max. (kN)	Filtered F_z^{ptot} Min. (kN)	Filtered F_z^{ptot} Max. (kN)	Filtered $(F_z^{\text{ptot}})^*$ Min. (kN)	Filtered $(F_z^{\text{ptot}})^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	8.60E+04	6.19E+04	1.12E+05	6.21E+04	1.12E+05	-1.19E+05	1.29E+05
.40	8.75E+04	4.13E+04	1.39E+05	4.15E+04	1.39E+05	-1.15E+05	1.28E+05
.80	9.42E+04	1.14E+04	1.96E+05	1.16E+04	1.95E+05	-1.03E+05	1.26E+05

Table L–136. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NSHIPMO							
(z_a/T)	$\langle F_z^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_z^{ptot} Min. (kN)	Unfiltered F_z^{ptot} Max. (kN)	Filtered F_z^{ptot} Min. (kN)	Filtered F_z^{ptot} Max. (kN)	Filtered $(F_z^{\text{ptot}})^*$ Min. (kN)	Filtered $(F_z^{\text{ptot}})^*$ Max. (kN)
.05	9.20E+04	8.60E+04	9.80E+04	8.60E+04	9.79E+04	-1.19E+05	1.19E+05
.10	9.20E+04	8.01E+04	1.04E+05	8.02E+04	1.04E+05	-1.18E+05	1.19E+05
.20	9.23E+04	6.87E+04	1.17E+05	6.89E+04	1.16E+05	-1.17E+05	1.20E+05
.40	9.36E+04	4.78E+04	1.43E+05	4.82E+04	1.42E+05	-1.14E+05	1.21E+05
.80	9.95E+04	1.46E+04	1.98E+05	1.49E+04	1.97E+05	-1.06E+05	1.22E+05

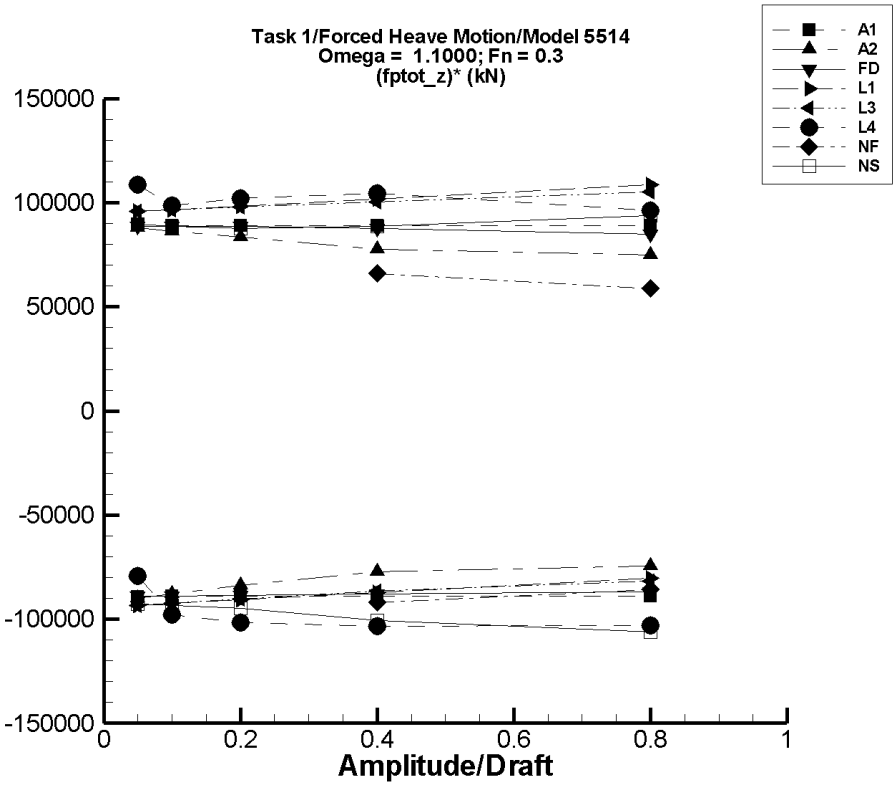

Figure L–18. Minimum and maximum of filtered $\left(F_z^{\text{ptot}} - \langle F_z^{\text{ptot}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–137. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.19E+04	8.70E+04	9.66E+04	8.75E+04	9.64E+04	-8.90E+04	8.93E+04
.10	9.19E+04	8.20E+04	1.01E+05	8.30E+04	1.01E+05	-8.89E+04	8.92E+04
.20	9.19E+04	7.20E+04	1.10E+05	7.41E+04	1.10E+05	-8.89E+04	8.92E+04
.40	9.18E+04	5.20E+04	1.29E+05	5.62E+04	1.27E+05	-8.89E+04	8.92E+04
.80	9.16E+04	1.20E+04	1.65E+05	2.05E+04	1.63E+05	-8.89E+04	8.92E+04

Table L–138. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle F_z^{\text{ptot}} \rangle$	Unfiltered F_z^{ptot}		Filtered F_z^{ptot}		Filtered $\left(F_z^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.20E+04	8.72E+04	9.65E+04	8.75E+04	9.64E+04	-8.98E+04	8.79E+04
.10	9.20E+04	8.26E+04	1.01E+05	8.32E+04	1.01E+05	-8.77E+04	8.65E+04
.20	9.22E+04	7.37E+04	1.09E+05	7.54E+04	1.09E+05	-8.37E+04	8.37E+04
.40	9.32E+04	5.77E+04	1.25E+05	6.23E+04	1.24E+05	-7.71E+04	7.79E+04
.80	9.96E+04	3.06E+04	1.63E+05	4.02E+04	1.60E+05	-7.42E+04	7.49E+04

Table L–139. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

FREDYN							
(z_a/T)	$\langle F_z^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_z^{ptot} Min. (kN)	Unfiltered F_z^{ptot} Max. (kN)	Filtered F_z^{ptot} Min. (kN)	Filtered F_z^{ptot} Max. (kN)	Filtered $\left(F_z^{\text{ptot}}\right)^*$ Min. (kN)	Filtered $\left(F_z^{\text{ptot}}\right)^*$ Max. (kN)
.05	9.20E+04	8.75E+04	9.66E+04	8.76E+04	9.65E+04	-8.88E+04	8.87E+04
.10	9.21E+04	8.30E+04	1.01E+05	8.33E+04	1.01E+05	-8.87E+04	8.87E+04
.20	9.25E+04	7.42E+04	1.11E+05	7.48E+04	1.10E+05	-8.85E+04	8.85E+04
.40	9.42E+04	5.76E+04	1.30E+05	5.89E+04	1.29E+05	-8.81E+04	8.74E+04
.80	1.01E+05	2.73E+04	1.72E+05	3.08E+04	1.68E+05	-8.73E+04	8.42E+04

Table L–140. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-1							
(z_a/T)	$\langle F_z^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_z^{ptot} Min. (kN)	Unfiltered F_z^{ptot} Max. (kN)	Filtered F_z^{ptot} Min. (kN)	Filtered F_z^{ptot} Max. (kN)	Filtered $\left(F_z^{\text{ptot}}\right)^*$ Min. (kN)	Filtered $\left(F_z^{\text{ptot}}\right)^*$ Max. (kN)
.05	8.70E+04	8.23E+04	9.19E+04	8.23E+04	9.18E+04	-9.39E+04	9.55E+04
.10	8.70E+04	7.76E+04	9.67E+04	7.77E+04	9.66E+04	-9.28E+04	9.62E+04
.20	8.68E+04	6.84E+04	1.07E+05	6.86E+04	1.06E+05	-9.10E+04	9.79E+04
.40	8.61E+04	5.08E+04	1.27E+05	5.11E+04	1.27E+05	-8.75E+04	1.01E+05
.80	8.32E+04	1.83E+04	1.71E+05	1.87E+04	1.70E+05	-8.07E+04	1.08E+05

Table L–141. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle \boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	8.71E+04	8.23E+04	9.19E+04	8.24E+04	9.18E+04	-9.39E+04	9.54E+04
.10	8.71E+04	7.77E+04	9.68E+04	7.78E+04	9.67E+04	-9.27E+04	9.61E+04
.20	8.73E+04	6.89E+04	1.07E+05	6.91E+04	1.07E+05	-9.08E+04	9.75E+04
.40	8.82E+04	5.30E+04	1.29E+05	5.33E+04	1.28E+05	-8.73E+04	9.98E+04
.80	9.18E+04	2.48E+04	1.77E+05	2.58E+04	1.75E+05	-8.26E+04	1.04E+05

Table L–142. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle \boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{z}}^{\text{ptot}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	8.71E+04	8.29E+04	9.29E+04	8.31E+04	9.25E+04	-8.03E+04	1.08E+05
.10	8.70E+04	7.64E+04	9.78E+04	7.72E+04	9.69E+04	-9.80E+04	9.85E+04
.20	8.69E+04	6.49E+04	1.10E+05	6.66E+04	1.07E+05	-1.02E+05	1.02E+05
.40	8.72E+04	4.41E+04	1.35E+05	4.59E+04	1.29E+05	-1.03E+05	1.05E+05
.80	9.02E+04	6.18E+03	1.79E+05	8.42E+03	1.68E+05	-1.02E+05	9.71E+04

Table L–143. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NFA							
(z_a/T)	$\langle F_z^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_z^{ptot} Min. (kN)	Unfiltered F_z^{ptot} Max. (kN)	Filtered F_z^{ptot} Min. (kN)	Filtered F_z^{ptot} Max. (kN)	Filtered $(F_z^{\text{ptot}})^*$ Min. (kN)	Filtered $(F_z^{\text{ptot}})^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	8.67E+04	6.73E+04	1.03E+05	6.86E+04	1.02E+05	-9.05E+04	7.88E+04
.40	8.80E+04	4.81E+04	1.15E+05	5.13E+04	1.14E+05	-9.19E+04	6.61E+04
.80	9.32E+04	1.99E+04	1.44E+05	2.45E+04	1.40E+05	-8.58E+04	5.87E+04

Table L–144. Minimum and Maximum of Variables F_z^{ptot} and $(F_z^{\text{ptot}})^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NSHIPMO							
(z_a/T)	$\langle F_z^{\text{ptot}} \rangle$ Mean (kN)	Unfiltered F_z^{ptot} Min. (kN)	Unfiltered F_z^{ptot} Max. (kN)	Filtered F_z^{ptot} Min. (kN)	Filtered F_z^{ptot} Max. (kN)	Filtered $(F_z^{\text{ptot}})^*$ Min. (kN)	Filtered $(F_z^{\text{ptot}})^*$ Max. (kN)
.05	9.19E+04	8.72E+04	9.64E+04	8.73E+04	9.64E+04	-9.27E+04	8.99E+04
.10	9.18E+04	8.24E+04	1.01E+05	8.25E+04	1.01E+05	-9.32E+04	8.87E+04
.20	9.16E+04	7.24E+04	1.09E+05	7.26E+04	1.09E+05	-9.48E+04	8.75E+04
.40	9.19E+04	5.11E+04	1.28E+05	5.16E+04	1.27E+05	-1.01E+05	8.88E+04
.80	9.39E+04	8.28E+03	1.72E+05	9.16E+03	1.69E+05	-1.06E+05	9.39E+04

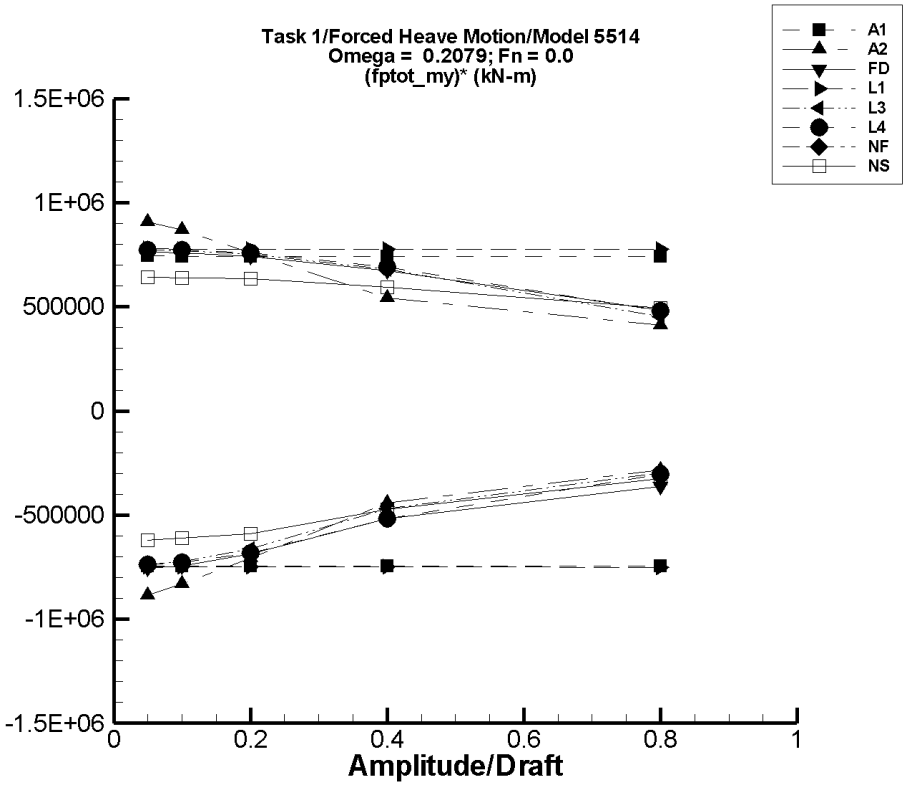

Figure L–19. Minimum and maximum of filtered $\left(M_y^{\text{ptot}} - \langle M_y^{\text{ptot}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–145. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	-0.458	-3.73E+04	3.73E+04	-3.73E+04	3.72E+04	-7.47E+05	7.44E+05
.10	-0.910	-7.44E+04	7.44E+04	-7.45E+04	7.43E+04	-7.45E+05	7.43E+05
.20	-1.82	-1.49E+05	1.49E+05	-1.49E+05	1.49E+05	-7.45E+05	7.43E+05
.40	-3.63	-2.98E+05	2.98E+05	-2.98E+05	2.97E+05	-7.45E+05	7.43E+05
.80	-7.29	-5.95E+05	5.95E+05	-5.96E+05	5.95E+05	-7.45E+05	7.43E+05

Table L–146. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	1.25E+03	-4.29E+04	4.67E+04	-4.30E+04	4.66E+04	-8.85E+05	9.07E+05
.10	2.83E+03	-8.02E+04	8.99E+04	-8.03E+04	8.98E+04	-8.31E+05	8.70E+05
.20	6.99E+03	-1.34E+05	1.59E+05	-1.35E+05	1.59E+05	-7.08E+05	7.59E+05
.40	2.03E+04	-1.57E+05	2.38E+05	-1.57E+05	2.38E+05	-4.44E+05	5.43E+05
.80	6.39E+04	-4.03E+05	4.05E+05	-1.63E+05	3.93E+05	-2.83E+05	4.11E+05

Table L–147. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	1.70E+04	-2.07E+04	5.51E+04	-2.07E+04	5.52E+04	-7.55E+05	7.62E+05
.10	1.76E+04	-5.68E+04	9.35E+04	-5.67E+04	9.36E+04	-7.43E+05	7.60E+05
.20	2.11E+04	-1.16E+05	1.70E+05	-1.16E+05	1.70E+05	-6.84E+05	7.44E+05
.40	4.64E+04	-1.61E+05	3.15E+05	-1.61E+05	3.15E+05	-5.17E+05	6.72E+05
.80	9.60E+04	-1.94E+05	4.90E+05	-1.93E+05	4.82E+05	-3.61E+05	4.82E+05

Table L–148. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	4.30	-3.82E+04	3.82E+04	-3.82E+04	3.82E+04	-7.64E+05	7.64E+05
.10	17.3	-7.63E+04	7.63E+04	-7.63E+04	7.63E+04	-7.63E+05	7.63E+05
.20	69.9	-1.53E+05	1.53E+05	-1.53E+05	1.53E+05	-7.63E+05	7.62E+05
.40	281.	-3.05E+05	3.05E+05	-3.05E+05	3.05E+05	-7.64E+05	7.62E+05
.80	1.13E+03	-6.11E+05	6.11E+05	-6.10E+05	6.10E+05	-7.64E+05	7.61E+05

Table L–149. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	942.	-3.67E+04	3.89E+04	-3.67E+04	3.89E+04	-7.53E+05	7.59E+05
.10	1.51E+03	-7.25E+04	7.71E+04	-7.25E+04	7.71E+04	-7.40E+05	7.56E+05
.20	5.23E+03	-1.30E+05	1.53E+05	-1.30E+05	1.53E+05	-6.77E+05	7.39E+05
.40	3.12E+04	-1.62E+05	2.97E+05	-1.62E+05	2.97E+05	-4.84E+05	6.64E+05
.80	8.34E+04	-1.62E+05	4.42E+05	-1.61E+05	4.39E+05	-3.06E+05	4.45E+05

Table L–150. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	919.	-3.68E+04	3.89E+04	-3.68E+04	3.89E+04	-7.54E+05	7.60E+05
.10	1.40E+03	-7.29E+04	7.72E+04	-7.28E+04	7.71E+04	-7.42E+05	7.57E+05
.20	4.42E+03	-1.35E+05	1.53E+05	-1.35E+05	1.53E+05	-6.96E+05	7.44E+05
.40	2.72E+04	-1.85E+05	2.98E+05	-1.85E+05	2.98E+05	-5.31E+05	6.77E+05
.80	7.23E+04	-1.87E+05	4.51E+05	-1.79E+05	4.49E+05	-3.14E+05	4.71E+05

Table L–151. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NFA							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–152. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	402.	-3.09E+04	3.28E+04	-3.06E+04	3.24E+04	-6.21E+05	6.41E+05
.10	1.66E+03	-6.00E+04	6.62E+04	-5.94E+04	6.55E+04	-6.10E+05	6.39E+05
.20	5.50E+03	-1.14E+05	1.34E+05	-1.13E+05	1.32E+05	-5.91E+05	6.35E+05
.40	2.56E+04	-1.64E+05	2.66E+05	-1.63E+05	2.64E+05	-4.72E+05	5.95E+05
.80	1.01E+05	-1.65E+05	4.98E+05	-1.59E+05	4.96E+05	-3.26E+05	4.93E+05

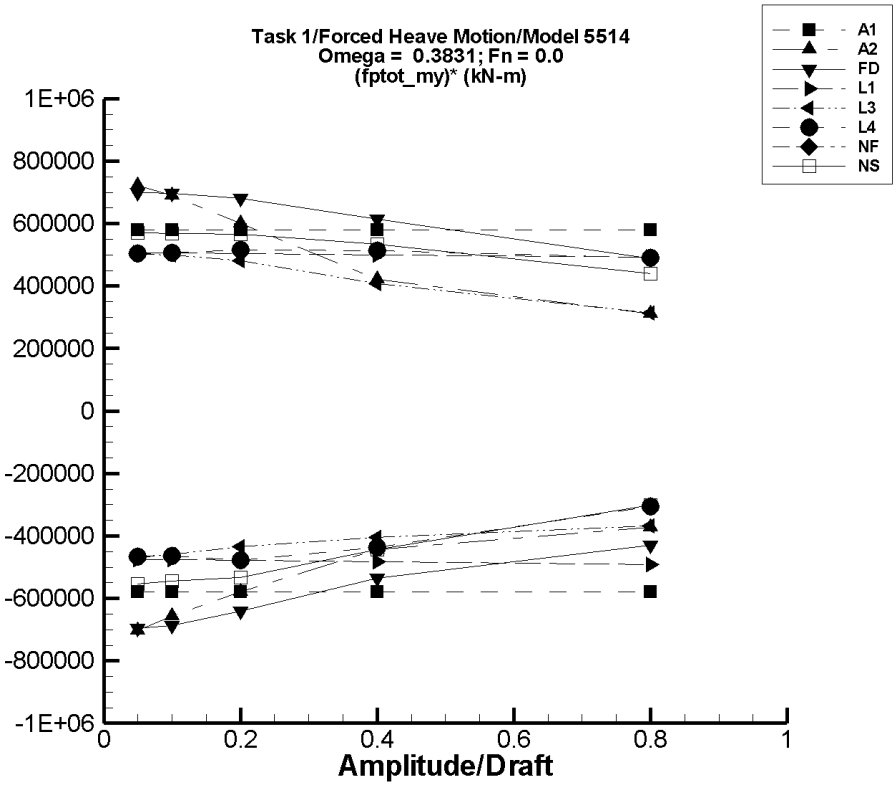

Figure L–20. Minimum and maximum of filtered $\left(M_y^{\text{ptot}} - \langle M_y^{\text{ptot}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–153. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	-10.7	-3.00E+04	2.90E+04	-2.90E+04	2.89E+04	-5.80E+05	5.79E+05
.10	-21.3	-5.98E+04	5.80E+04	-5.79E+04	5.78E+04	-5.79E+05	5.78E+05
.20	-42.7	-1.20E+05	1.16E+05	-1.16E+05	1.16E+05	-5.79E+05	5.78E+05
.40	-85.4	-2.39E+05	2.32E+05	-2.32E+05	2.31E+05	-5.79E+05	5.78E+05
.80	-171.	-4.79E+05	4.64E+05	-4.64E+05	4.62E+05	-5.79E+05	5.78E+05

Table L–154. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	1.24E+03	-3.50E+04	3.75E+04	-3.40E+04	3.73E+04	-7.04E+05	7.22E+05
.10	2.81E+03	-6.50E+04	7.19E+04	-6.29E+04	7.17E+04	-6.58E+05	6.89E+05
.20	6.90E+03	-1.33E+05	1.27E+05	-1.09E+05	1.27E+05	-5.81E+05	6.00E+05
.40	2.03E+04	-1.59E+05	1.89E+05	-1.58E+05	1.88E+05	-4.44E+05	4.20E+05
.80	6.11E+04	-5.89E+05	3.50E+05	-2.36E+05	3.11E+05	-3.72E+05	3.12E+05

Table L–155. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	1.70E+04	-1.79E+04	5.22E+04	-1.77E+04	5.21E+04	-6.95E+05	7.00E+05
.10	1.76E+04	-5.12E+04	8.76E+04	-5.09E+04	8.73E+04	-6.85E+05	6.98E+05
.20	2.10E+04	-1.08E+05	1.58E+05	-1.07E+05	1.57E+05	-6.41E+05	6.82E+05
.40	4.62E+04	-1.70E+05	2.92E+05	-1.69E+05	2.91E+05	-5.37E+05	6.13E+05
.80	9.60E+04	-2.55E+05	4.97E+05	-2.51E+05	4.83E+05	-4.33E+05	4.84E+05

Table L–156. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-46.8	-2.47E+04	2.45E+04	-2.47E+04	2.45E+04	-4.93E+05	4.91E+05
.10	-196.	-4.96E+04	4.88E+04	-4.95E+04	4.87E+04	-4.93E+05	4.89E+05
.20	-805.	-1.00E+05	9.67E+04	-9.98E+04	9.66E+04	-4.95E+05	4.87E+05
.40	-3.26E+03	-2.03E+05	1.90E+05	-2.03E+05	1.90E+05	-4.99E+05	4.83E+05
.80	-1.31E+04	-4.20E+05	3.68E+05	-4.20E+05	3.67E+05	-5.08E+05	4.76E+05

Table L–157. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	891.	-2.33E+04	2.52E+04	-2.33E+04	2.52E+04	-4.84E+05	4.86E+05
.10	1.29E+03	-4.64E+04	4.95E+04	-4.63E+04	4.95E+04	-4.76E+05	4.82E+05
.20	4.33E+03	-8.61E+04	9.73E+04	-8.59E+04	9.72E+04	-4.51E+05	4.64E+05
.40	2.73E+04	-1.41E+05	1.84E+05	-1.41E+05	1.84E+05	-4.20E+05	3.92E+05
.80	6.68E+04	-2.39E+05	3.10E+05	-2.36E+05	3.08E+05	-3.79E+05	3.01E+05

Table L–158. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	780.	-2.35E+04	2.52E+04	-2.34E+04	2.51E+04	-4.84E+05	4.87E+05
.10	748.	-4.83E+04	4.97E+04	-4.74E+04	4.96E+04	-4.81E+05	4.89E+05
.20	-664.	-1.10E+05	9.97E+04	-9.96E+04	9.93E+04	-4.95E+05	5.00E+05
.40	3.08E+03	-1.82E+05	2.03E+05	-1.77E+05	2.03E+05	-4.51E+05	4.99E+05
.80	1.31E+04	-2.60E+05	4.18E+05	-2.39E+05	3.98E+05	-3.15E+05	4.81E+05

Table L–159. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NFA							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–160. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	314.	-2.76E+04	2.91E+04	-2.73E+04	2.88E+04	-5.53E+05	5.70E+05
.10	1.43E+03	-5.35E+04	5.88E+04	-5.30E+04	5.82E+04	-5.44E+05	5.67E+05
.20	4.67E+03	-1.03E+05	1.19E+05	-1.02E+05	1.18E+05	-5.34E+05	5.66E+05
.40	2.04E+04	-1.58E+05	2.36E+05	-1.57E+05	2.34E+05	-4.44E+05	5.34E+05
.80	8.39E+04	-1.63E+05	4.37E+05	-1.57E+05	4.35E+05	-3.01E+05	4.39E+05

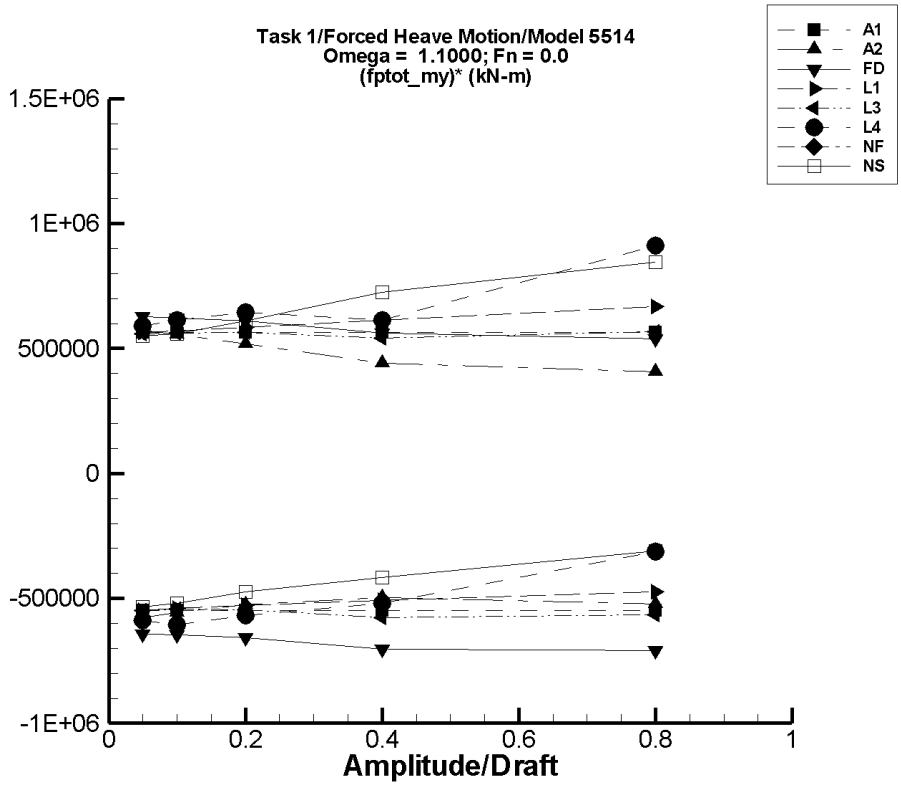

Figure L–21. Minimum and maximum of filtered $\left(M_y^{\text{ptot}} - \langle M_y^{\text{ptot}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–161. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-364.	-3.19E+04	2.88E+04	-2.78E+04	2.79E+04	-5.49E+05	5.65E+05
.10	-727.	-6.37E+04	5.75E+04	-5.55E+04	5.57E+04	-5.48E+05	5.64E+05
.20	-1.45E+03	-1.27E+05	1.15E+05	-1.11E+05	1.11E+05	-5.48E+05	5.64E+05
.40	-2.91E+03	-2.55E+05	2.30E+05	-2.22E+05	2.23E+05	-5.48E+05	5.64E+05
.80	-5.81E+03	-5.10E+05	4.60E+05	-4.44E+05	4.46E+05	-5.48E+05	5.64E+05

Table L–162. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	880.	-3.25E+04	3.05E+04	-2.79E+04	2.96E+04	-5.75E+05	5.75E+05
.10	2.10E+03	-6.30E+04	5.96E+04	-5.35E+04	5.76E+04	-5.56E+05	5.55E+05
.20	5.50E+03	-1.18E+05	1.14E+05	-9.93E+04	1.09E+05	-5.24E+05	5.19E+05
.40	1.73E+04	-1.99E+05	2.14E+05	-1.81E+05	1.94E+05	-4.96E+05	4.43E+05
.80	6.98E+04	-3.76E+05	4.20E+05	-3.48E+05	3.96E+05	-5.23E+05	4.08E+05

Table L–163. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	1.70E+04	-1.51E+04	4.89E+04	-1.51E+04	4.84E+04	-6.42E+05	6.27E+05
.10	1.76E+04	-4.69E+04	8.10E+04	-4.70E+04	7.99E+04	-6.46E+05	6.23E+05
.20	2.10E+04	-1.11E+05	1.45E+05	-1.11E+05	1.43E+05	-6.59E+05	6.09E+05
.40	4.63E+04	-2.37E+05	2.74E+05	-2.37E+05	2.68E+05	-7.09E+05	5.55E+05
.80	9.38E+04	-4.85E+05	5.38E+05	-4.78E+05	5.21E+05	-7.14E+05	5.33E+05

Table L–164. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-43.4	-2.78E+04	2.85E+04	-2.75E+04	2.81E+04	-5.49E+05	5.63E+05
.10	-179.	-5.49E+04	5.75E+04	-5.43E+04	5.68E+04	-5.41E+05	5.69E+05
.20	-726.	-1.07E+05	1.18E+05	-1.06E+05	1.16E+05	-5.27E+05	5.84E+05
.40	-2.93E+03	-2.05E+05	2.46E+05	-2.06E+05	2.42E+05	-5.08E+05	6.13E+05
.80	-1.17E+04	-3.85E+05	5.35E+05	-3.88E+05	5.26E+05	-4.71E+05	6.72E+05

Table L–165. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	894.	-2.69E+04	2.91E+04	-2.65E+04	2.88E+04	-5.49E+05	5.58E+05
.10	1.31E+03	-5.38E+04	5.81E+04	-5.32E+04	5.75E+04	-5.45E+05	5.62E+05
.20	4.41E+03	-1.06E+05	1.18E+05	-1.05E+05	1.17E+05	-5.48E+05	5.62E+05
.40	2.75E+04	-2.03E+05	2.47E+05	-2.05E+05	2.43E+05	-5.82E+05	5.38E+05
.80	6.69E+04	-3.84E+05	5.32E+05	-3.86E+05	5.22E+05	-5.66E+05	5.68E+05

Table L–166. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	650.	-3.05E+04	3.12E+04	-2.88E+04	3.02E+04	-5.89E+05	5.90E+05
.10	-74.3	-6.52E+04	6.35E+04	-6.05E+04	6.14E+04	-6.04E+05	6.15E+05
.20	-147.	-1.28E+05	1.40E+05	-1.13E+05	1.29E+05	-5.64E+05	6.46E+05
.40	1.67E+04	-2.00E+05	3.37E+05	-1.88E+05	2.64E+05	-5.13E+05	6.19E+05
.80	2.88E+04	-2.88E+05	1.13E+06	-2.12E+05	7.69E+05	-3.01E+05	9.25E+05

Table L–167. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NFA							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–168. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-153.	-2.73E+04	2.78E+04	-2.68E+04	2.74E+04	-5.33E+05	5.52E+05
.10	128.	-5.31E+04	5.74E+04	-5.20E+04	5.59E+04	-5.21E+05	5.58E+05
.20	270.	-9.93E+04	1.25E+05	-9.48E+04	1.22E+05	-4.75E+05	6.11E+05
.40	-1.01E+04	-1.80E+05	3.17E+05	-1.77E+05	2.80E+05	-4.17E+05	7.25E+05
.80	-4.20E+04	-3.04E+05	1.07E+06	-2.90E+05	6.34E+05	-3.10E+05	8.45E+05

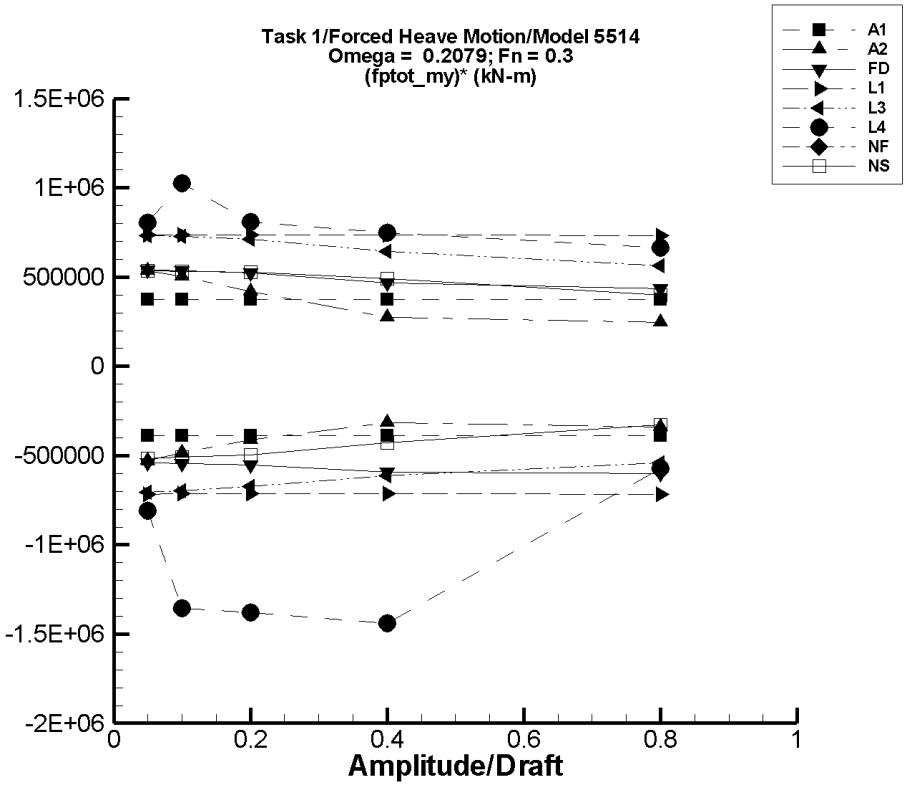

Figure L–22. Minimum and maximum of filtered $\left(M_y^{\text{ptot}} - \langle M_y^{\text{ptot}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–169. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-101.	-2.19E+04	2.10E+04	-1.95E+04	1.87E+04	-3.88E+05	3.76E+05
.10	-202.	-4.37E+04	4.18E+04	-3.89E+04	3.74E+04	-3.87E+05	3.76E+05
.20	-405.	-8.75E+04	8.37E+04	-7.78E+04	7.47E+04	-3.87E+05	3.76E+05
.40	-809.	-1.75E+05	1.67E+05	-1.56E+05	1.49E+05	-3.87E+05	3.76E+05
.80	-1.62E+03	-3.50E+05	3.35E+05	-3.11E+05	2.99E+05	-3.87E+05	3.76E+05

Table L–170. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	1.14E+03	-2.72E+04	2.87E+04	-2.53E+04	2.78E+04	-5.28E+05	5.34E+05
.10	2.63E+03	-5.13E+04	5.57E+04	-4.58E+04	5.28E+04	-4.84E+05	5.02E+05
.20	6.59E+03	-8.99E+04	1.03E+05	-7.59E+04	9.07E+04	-4.13E+05	4.20E+05
.40	1.95E+04	-1.12E+05	1.51E+05	-1.07E+05	1.30E+05	-3.15E+05	2.76E+05
.80	6.23E+04	-7.27E+05	2.76E+05	-2.09E+05	2.59E+05	-3.39E+05	2.46E+05

Table L–171. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	1.70E+04	-1.01E+04	4.40E+04	-1.00E+04	4.40E+04	-5.42E+05	5.38E+05
.10	1.76E+04	-3.69E+04	7.12E+04	-3.68E+04	7.11E+04	-5.44E+05	5.36E+05
.20	2.11E+04	-8.96E+04	1.26E+05	-8.95E+04	1.26E+05	-5.53E+05	5.22E+05
.40	4.64E+04	-1.92E+05	2.34E+05	-1.91E+05	2.34E+05	-5.94E+05	4.69E+05
.80	9.60E+04	-3.88E+05	4.46E+05	-3.85E+05	4.45E+05	-6.02E+05	4.37E+05

Table L–172. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	4.35E+04	7.18E+03	7.98E+04	7.21E+03	7.98E+04	-7.26E+05	7.26E+05
.10	4.36E+04	-2.89E+04	1.16E+05	-2.89E+04	1.16E+05	-7.25E+05	7.24E+05
.20	4.38E+04	-1.01E+05	1.89E+05	-1.01E+05	1.89E+05	-7.25E+05	7.24E+05
.40	4.48E+04	-2.45E+05	3.35E+05	-2.45E+05	3.34E+05	-7.25E+05	7.24E+05
.80	4.88E+04	-5.32E+05	6.28E+05	-5.32E+05	6.28E+05	-7.26E+05	7.23E+05

Table L–173. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	4.44E+04	8.58E+03	8.05E+04	8.60E+03	8.05E+04	-7.17E+05	7.21E+05
.10	4.51E+04	-2.59E+04	1.17E+05	-2.59E+04	1.17E+05	-7.09E+05	7.17E+05
.20	4.90E+04	-8.75E+04	1.89E+05	-8.74E+04	1.89E+05	-6.82E+05	7.02E+05
.40	7.57E+04	-1.74E+05	3.29E+05	-1.74E+05	3.29E+05	-6.25E+05	6.34E+05
.80	1.31E+05	-3.07E+05	5.80E+05	-3.07E+05	5.78E+05	-5.47E+05	5.59E+05

Table L–174. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	4.39E+04	-1.66E+04	8.43E+04	3.11E+03	8.37E+04	-8.15E+05	7.97E+05
.10	4.12E+04	-1.12E+05	1.46E+05	-9.50E+04	1.43E+05	-1.36E+06	1.02E+06
.20	3.71E+04	-2.56E+05	2.11E+05	-2.40E+05	1.98E+05	-1.39E+06	8.03E+05
.40	3.80E+04	-6.23E+05	3.54E+05	-5.40E+05	3.36E+05	-1.45E+06	7.44E+05
.80	2.39E+04	-4.70E+05	5.69E+05	-4.32E+05	5.56E+05	-5.69E+05	6.65E+05

Table L–175. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NFA							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–176. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-230.	-2.64E+04	2.69E+04	-2.61E+04	2.66E+04	-5.17E+05	5.36E+05
.10	136.	-5.11E+04	5.39E+04	-5.06E+04	5.34E+04	-5.07E+05	5.32E+05
.20	1.62E+03	-9.83E+04	1.08E+05	-9.74E+04	1.07E+05	-4.95E+05	5.28E+05
.40	1.71E+04	-1.56E+05	2.16E+05	-1.55E+05	2.14E+05	-4.30E+05	4.91E+05
.80	7.09E+04	-1.97E+05	3.93E+05	-1.90E+05	3.91E+05	-3.27E+05	4.00E+05

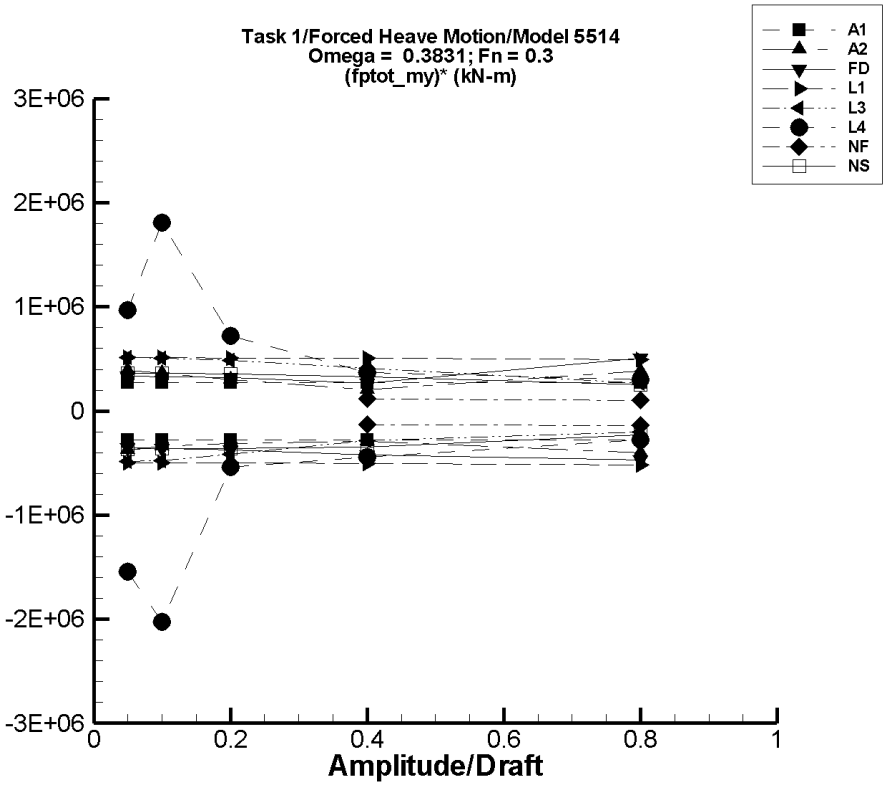

Figure L–23. Minimum and maximum of filtered $\left(M_y^{\text{ptot}} - \langle M_y^{\text{ptot}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–177. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	457.	-1.44E+04	1.41E+04	-1.34E+04	1.40E+04	-2.78E+05	2.71E+05
.10	912.	-2.88E+04	2.81E+04	-2.68E+04	2.79E+04	-2.77E+05	2.70E+05
.20	1.82E+03	-5.76E+04	5.63E+04	-5.37E+04	5.59E+04	-2.77E+05	2.70E+05
.40	3.65E+03	-1.15E+05	1.13E+05	-1.07E+05	1.12E+05	-2.77E+05	2.70E+05
.80	7.30E+03	-2.30E+05	2.25E+05	-2.15E+05	2.24E+05	-2.77E+05	2.70E+05

Table L–178. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	1.70E+03	-1.96E+04	2.12E+04	-1.69E+04	2.11E+04	-3.72E+05	3.88E+05
.10	3.75E+03	-3.40E+04	4.00E+04	-3.02E+04	3.98E+04	-3.40E+05	3.61E+05
.20	8.77E+03	-7.04E+04	6.91E+04	-5.39E+04	6.85E+04	-3.13E+05	2.99E+05
.40	2.40E+04	-9.56E+04	1.11E+05	-9.32E+04	1.05E+05	-2.93E+05	2.03E+05
.80	6.86E+04	-8.51E+05	4.04E+05	-2.53E+05	3.78E+05	-4.02E+05	3.86E+05

Table L–179. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	1.70E+04	-407.	3.42E+04	-342.	3.42E+04	-3.48E+05	3.43E+05
.10	1.76E+04	-1.77E+04	5.16E+04	-1.75E+04	5.15E+04	-3.51E+05	3.39E+05
.20	2.10E+04	-5.21E+04	8.65E+04	-5.18E+04	8.62E+04	-3.64E+05	3.26E+05
.40	4.62E+04	-1.20E+05	1.56E+05	-1.19E+05	1.56E+05	-4.14E+05	2.73E+05
.80	9.60E+04	-2.84E+05	5.10E+05	-2.77E+05	5.07E+05	-4.66E+05	5.13E+05

Table L–180. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	4.36E+04	1.81E+04	6.88E+04	1.82E+04	6.88E+04	-5.07E+05	5.05E+05
.10	4.38E+04	-7.12E+03	9.41E+04	-7.06E+03	9.40E+04	-5.08E+05	5.03E+05
.20	4.45E+04	-5.78E+04	1.45E+05	-5.76E+04	1.45E+05	-5.11E+05	5.00E+05
.40	4.77E+04	-1.59E+05	2.46E+05	-1.59E+05	2.46E+05	-5.16E+05	4.95E+05
.80	6.05E+04	-3.62E+05	4.48E+05	-3.62E+05	4.48E+05	-5.28E+05	4.84E+05

Table L–181. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	4.45E+04	1.96E+04	6.95E+04	1.97E+04	6.95E+04	-4.97E+05	5.00E+05
.10	4.52E+04	-3.33E+03	9.49E+04	-3.27E+03	9.48E+04	-4.85E+05	4.96E+05
.20	4.97E+04	-3.55E+04	1.45E+05	-3.54E+04	1.45E+05	-4.25E+05	4.77E+05
.40	7.83E+04	-4.04E+04	2.38E+05	-4.01E+04	2.38E+05	-2.96E+05	3.98E+05
.80	1.40E+05	-2.36E+04	3.56E+05	-2.17E+04	3.49E+05	-2.03E+05	2.60E+05

Table L–182. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	4.34E+04	-3.94E+04	9.45E+04	-3.38E+04	9.19E+04	-1.55E+06	9.69E+05
.10	4.11E+04	-1.78E+05	2.34E+05	-1.62E+05	2.22E+05	-2.03E+06	1.81E+06
.20	3.44E+04	-9.61E+04	1.88E+05	-7.40E+04	1.77E+05	-5.42E+05	7.14E+05
.40	3.09E+04	-1.68E+05	1.90E+05	-1.49E+05	1.76E+05	-4.49E+05	3.63E+05
.80	2.47E+04	-2.18E+05	2.89E+05	-1.97E+05	2.66E+05	-2.77E+05	3.01E+05

Table L–183. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NFA							
(z_a/T)	$\langle M_y^{\text{ptot}} \rangle$ **Mean (kN-m)**	**Unfiltered** M_y^{ptot} **Min. (kN-m)**	**Max. (kN-m)**	**Filtered** M_y^{ptot} **Min. (kN-m)**	**Max. (kN-m)**	**Filtered** $\left(M_y^{\text{ptot}}\right)^*$ **Min. (kN-m)**	**Max. (kN-m)**
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	-2.73E+04	-6.22E+04	1.12E+04	-5.96E+04	8.14E+03	-1.61E+05	1.77E+05
.40	-3.30E+04	-8.85E+04	1.42E+04	-8.64E+04	1.31E+04	-1.33E+05	1.15E+05
.80	-5.92E+04	-1.74E+05	2.37E+04	-1.70E+05	2.26E+04	-1.38E+05	1.02E+05

Table L–184. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NSHIPMO							
(z_a/T)	$\langle M_y^{\text{ptot}} \rangle$ **Mean (kN-m)**	**Unfiltered** M_y^{ptot} **Min. (kN-m)**	**Max. (kN-m)**	**Filtered** M_y^{ptot} **Min. (kN-m)**	**Max. (kN-m)**	**Filtered** $\left(M_y^{\text{ptot}}\right)^*$ **Min. (kN-m)**	**Max. (kN-m)**
.05	-577.	-1.92E+04	1.78E+04	-1.90E+04	1.76E+04	-3.69E+05	3.64E+05
.10	-776.	-3.73E+04	3.55E+04	-3.69E+04	3.52E+04	-3.61E+05	3.59E+05
.20	-1.25E+03	-7.49E+04	7.10E+04	-7.40E+04	7.03E+04	-3.64E+05	3.58E+05
.40	1.06E+04	-1.28E+05	1.44E+05	-1.27E+05	1.43E+05	-3.44E+05	3.31E+05
.80	4.89E+04	-1.44E+05	2.53E+05	-1.34E+05	2.52E+05	-2.28E+05	2.54E+05

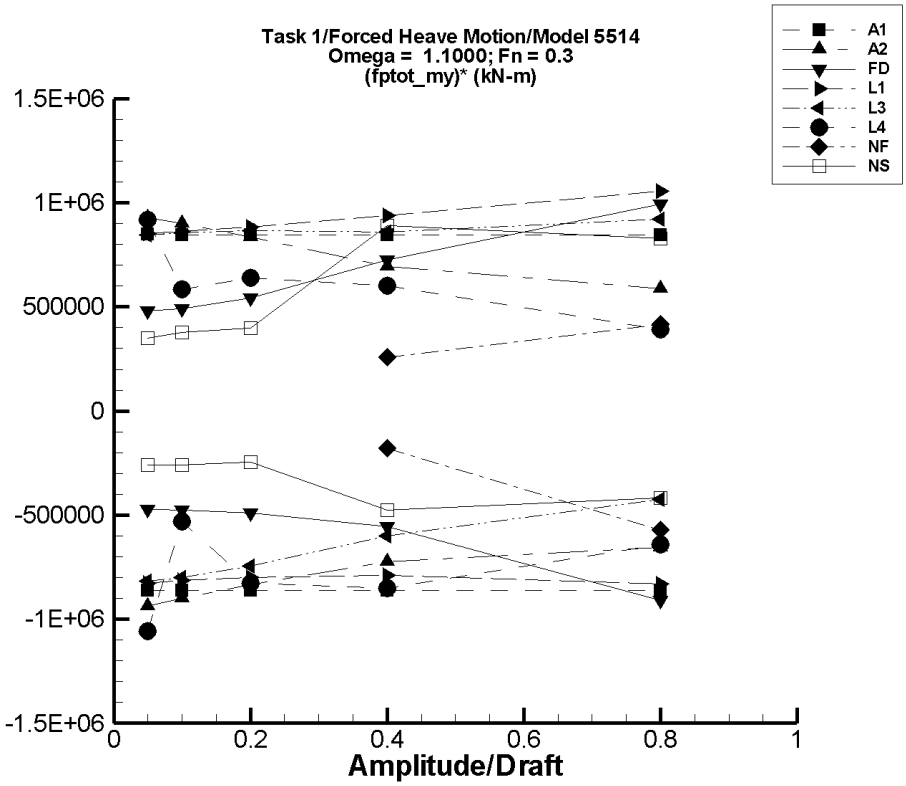

Figure L–24. Minimum and maximum of filtered $\left(M_y^{\text{ptot}} - \langle M_y^{\text{ptot}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–185. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	-676.	-5.40E+04	4.31E+04	-4.38E+04	4.17E+04	-8.62E+05	8.48E+05
.10	-1.35E+03	-1.08E+05	8.60E+04	-8.74E+04	8.33E+04	-8.60E+05	8.47E+05
.20	-2.70E+03	-2.16E+05	1.72E+05	-1.75E+05	1.67E+05	-8.60E+05	8.47E+05
.40	-5.40E+03	-4.31E+05	3.44E+05	-3.50E+05	3.33E+05	-8.60E+05	8.47E+05
.80	-1.08E+04	-8.62E+05	6.88E+05	-6.99E+05	6.67E+05	-8.60E+05	8.47E+05

Table L–186. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle M_y^{\text{ptot}} \rangle$	**Unfiltered** M_y^{ptot}		**Filtered** M_y^{ptot}		**Filtered** $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	568.	-5.82E+04	4.85E+04	-4.62E+04	4.70E+04	-9.35E+05	9.28E+05
.10	1.47E+03	-1.11E+05	9.45E+04	-8.85E+04	9.15E+04	-9.00E+05	9.01E+05
.20	4.25E+03	-2.00E+05	1.77E+05	-1.63E+05	1.71E+05	-8.34E+05	8.36E+05
.40	1.48E+04	-3.32E+05	3.07E+05	-2.75E+05	2.93E+05	-7.23E+05	6.96E+05
.80	6.48E+04	-5.21E+05	5.62E+05	-4.58E+05	5.36E+05	-6.54E+05	5.89E+05

Table L–187. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	1.70E+04	-7.39E+03	4.17E+04	-6.65E+03	4.10E+04	-4.74E+05	4.79E+05
.10	1.76E+04	-3.16E+04	6.81E+04	-3.01E+04	6.64E+04	-4.76E+05	4.89E+05
.20	2.10E+04	-8.04E+04	1.34E+05	-7.74E+04	1.29E+05	-4.92E+05	5.39E+05
.40	4.63E+04	-1.85E+05	3.48E+05	-1.78E+05	3.33E+05	-5.61E+05	7.17E+05
.80	9.38E+04	-7.23E+05	9.20E+05	-6.39E+05	8.85E+05	-9.16E+05	9.88E+05

Table L–188. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	4.35E+04	1.59E+03	8.64E+04	2.05E+03	8.59E+04	-8.30E+05	8.48E+05
.10	4.30E+04	-3.96E+04	1.30E+05	-3.88E+04	1.29E+05	-8.18E+05	8.58E+05
.20	4.08E+04	-1.21E+05	2.20E+05	-1.20E+05	2.17E+05	-8.03E+05	8.82E+05
.40	3.19E+04	-2.88E+05	4.12E+05	-2.84E+05	4.07E+05	-7.91E+05	9.37E+05
.80	-3.40E+03	-6.78E+05	8.58E+05	-6.66E+05	8.42E+05	-8.29E+05	1.06E+06

Table L–189. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	4.44E+04	2.93E+03	8.71E+04	3.39E+03	8.66E+04	-8.21E+05	8.43E+05
.10	4.44E+04	-3.66E+04	1.31E+05	-3.57E+04	1.30E+05	-8.02E+05	8.51E+05
.20	4.59E+04	-1.05E+05	2.20E+05	-1.04E+05	2.18E+05	-7.48E+05	8.61E+05
.40	6.24E+04	-1.82E+05	4.10E+05	-1.79E+05	4.04E+05	-6.04E+05	8.54E+05
.80	7.52E+04	-2.78E+05	8.33E+05	-2.64E+05	8.12E+05	-4.24E+05	9.20E+05

Table L–190. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	4.13E+04	-3.86E+04	9.28E+04	-1.32E+04	8.57E+04	-1.09E+06	8.89E+05
.10	3.89E+04	-3.11E+04	1.07E+05	-1.36E+04	9.79E+04	-5.25E+05	5.90E+05
.20	3.21E+04	-1.57E+05	1.86E+05	-1.31E+05	1.62E+05	-8.16E+05	6.50E+05
.40	4.36E+04	-3.21E+05	3.63E+05	-2.92E+05	2.88E+05	-8.39E+05	6.12E+05
.80	1.32E+05	-4.52E+05	7.49E+05	-3.72E+05	4.55E+05	-6.30E+05	4.03E+05

Table L–191. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NFA							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	-2.84E+04	-5.32E+04	1.16E+04	-5.04E+04	6.84E+03	-1.10E+05	1.76E+05
.40	-2.22E+04	-1.01E+05	1.02E+05	-9.50E+04	8.02E+04	-1.82E+05	2.56E+05
.80	-4.32E+04	-5.40E+05	3.75E+05	-5.01E+05	2.89E+05	-5.72E+05	4.15E+05

Table L–192. Minimum and Maximum of Variables M_y^{ptot} and $\left(M_y^{\text{ptot}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle M_y^{\text{ptot}} \rangle$	Unfiltered M_y^{ptot}		Filtered M_y^{ptot}		Filtered $\left(M_y^{\text{ptot}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-2.19E+03	-1.68E+04	1.65E+04	-1.52E+04	1.54E+04	-2.60E+05	3.51E+05
.10	-5.54E+03	-3.29E+04	3.36E+04	-3.15E+04	3.23E+04	-2.60E+05	3.79E+05
.20	-2.03E+04	-7.12E+04	6.32E+04	-6.94E+04	5.94E+04	-2.45E+05	3.98E+05
.40	2.66E+03	-1.90E+05	3.86E+05	-1.88E+05	3.59E+05	-4.77E+05	8.90E+05
.80	7.11E+04	-2.87E+05	1.16E+06	-2.62E+05	7.33E+05	-4.17E+05	8.28E+05

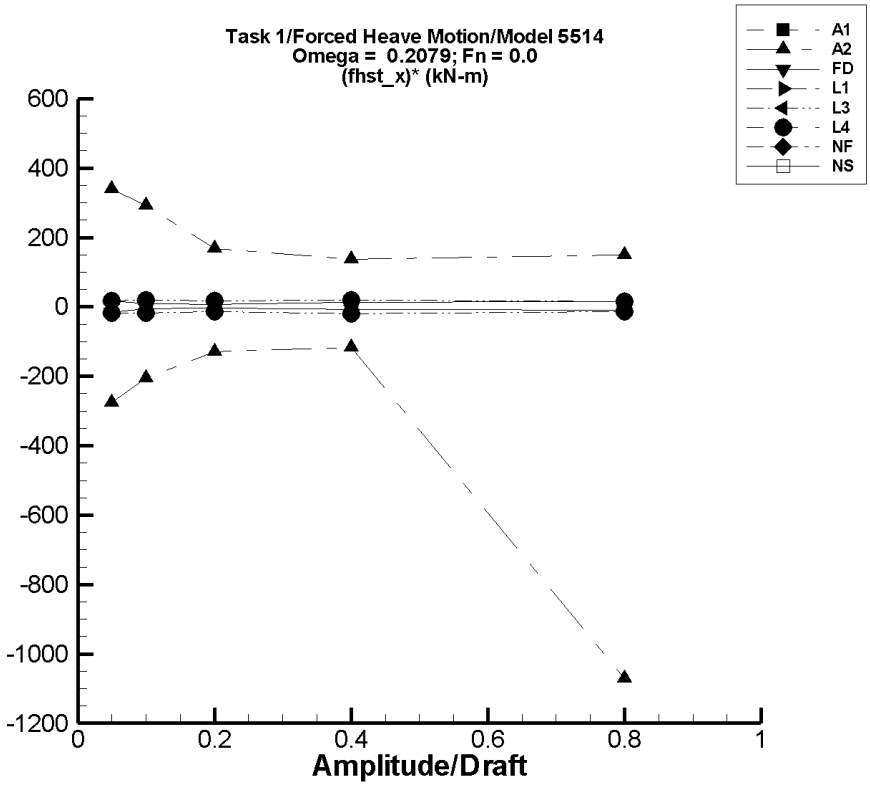

Figure L–25. Minimum and maximum of filtered $\left(F_x^{\text{hst}} - \langle F_x^{\text{hst}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–193. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-1							
(z_a/T)	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$ **Mean (kN)**	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$ **Min. (kN)**	**Max. (kN)**	**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$ **Min. (kN)**	**Max. (kN)**	**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$ **Min. (kN)**	**Max. (kN)**
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–194. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-2							
(z_a/T)	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$ **Mean (kN)**	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$ **Min. (kN)**	**Max. (kN)**	**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$ **Min. (kN)**	**Max. (kN)**	**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$ **Min. (kN)**	**Max. (kN)**
.05	41.6	27.9	58.6	27.9	58.6	-276.	339.
.10	45.3	24.9	74.6	24.9	74.5	-205.	292.
.20	50.7	24.8	84.5	24.9	84.4	-129.	169.
.40	28.5	-18.4	84.5	-18.3	83.4	-117.	137.
.80	-41.0	-3.22E+03	84.5	-897.	78.4	-1.07E+03	149.

Table L–195. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

FREDYN							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Unfiltered F_x^{hst} Max. (kN)	Filtered F_x^{hst} Min. (kN)	Filtered F_x^{hst} Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Max. (kN)
.05	-21.4	-22.2	-20.5	-22.2	-20.5	-14.8	17.7
.10	-21.5	-22.2	-20.5	-22.2	-20.5	-6.19	9.85
.20	-21.3	-22.2	-20.0	-22.1	-20.0	-4.17	6.73
.40	-20.4	-23.2	-15.0	-23.2	-15.0	-7.11	13.3
.80	-18.0	-25.2	-5.40	-25.1	-5.42	-8.88	15.7

Table L–196. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-1							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Unfiltered F_x^{hst} Max. (kN)	Filtered F_x^{hst} Min. (kN)	Filtered F_x^{hst} Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–197. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle F_x^{\text{hst}} \rangle$	Unfiltered F_x^{hst}		Filtered F_x^{hst}		Filtered $\left(F_x^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-16.3	-17.2	-15.4	-17.2	-15.4	-18.1	17.6
.10	-16.3	-18.0	-14.3	-18.0	-14.3	-17.4	19.5
.20	-15.9	-18.8	-12.5	-18.8	-12.5	-14.4	17.3
.40	-15.9	-23.3	-8.26	-23.3	-8.33	-18.5	18.9
.80	-14.1	-24.8	-2.08	-24.7	-2.08	-13.4	15.0

Table L–198. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle F_x^{\text{hst}} \rangle$	Unfiltered F_x^{hst}		Filtered F_x^{hst}		Filtered $\left(F_x^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-16.3	-17.2	-15.4	-17.2	-15.4	-18.1	17.6
.10	-16.3	-18.0	-14.3	-18.0	-14.3	-17.4	19.5
.20	-15.9	-18.8	-12.5	-18.8	-12.5	-14.4	17.3
.40	-15.9	-23.3	-8.26	-23.3	-8.33	-18.5	18.9
.80	-14.1	-24.8	-2.08	-24.7	-2.08	-13.4	15.0

Table L–199. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NFA							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Unfiltered F_x^{hst} Max. (kN)	Filtered F_x^{hst} Min. (kN)	Filtered F_x^{hst} Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–200. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NSHIPMO							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Unfiltered F_x^{hst} Max. (kN)	Filtered F_x^{hst} Min. (kN)	Filtered F_x^{hst} Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

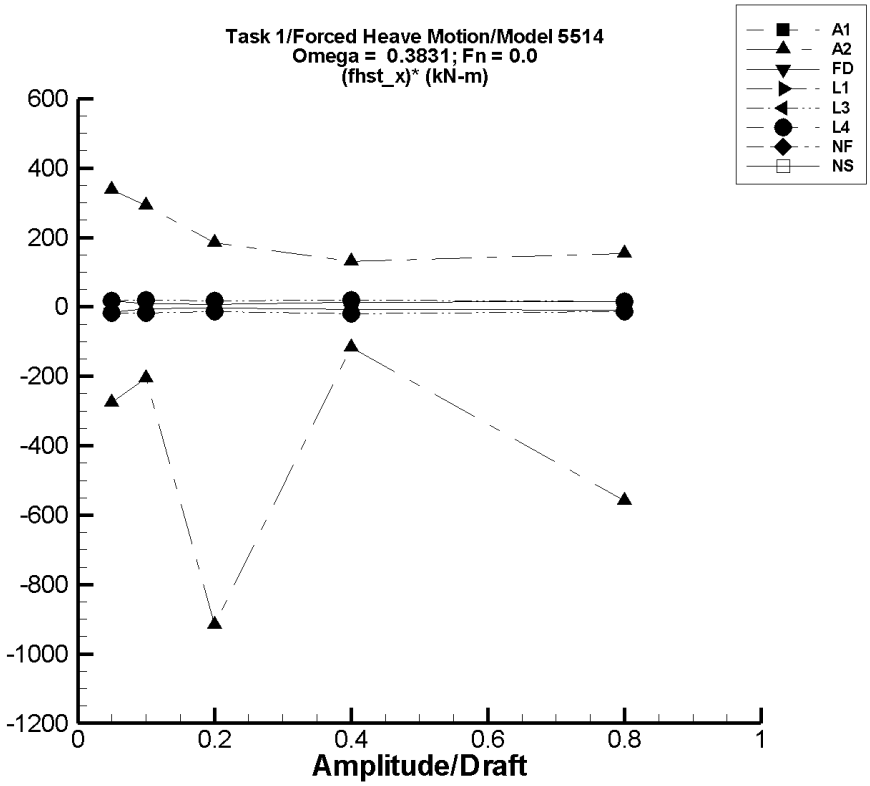

Figure L–26. Minimum and maximum of filtered $\left(F_x^{\text{hst}} - \langle F_x^{\text{hst}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–201. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-1							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Max. (kN)	Filtered F_x^{hst} Min. (kN)	Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–202. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-2							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Max. (kN)	Filtered F_x^{hst} Min. (kN)	Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Max. (kN)
.05	41.6	27.9	58.6	27.8	58.5	-276.	337.
.10	45.3	24.9	74.6	24.8	74.5	-205.	291.
.20	47.2	-1.20E+03	84.5	-136.	84.2	-916.	185.
.40	28.5	-18.4	84.4	-18.1	80.9	-117.	131.
.80	-47.6	-3.21E+03	84.5	-495.	75.3	-559.	154.

Table L–203. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

FREDYN							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Unfiltered F_x^{hst} Max. (kN)	Filtered F_x^{hst} Min. (kN)	Filtered F_x^{hst} Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Max. (kN)
.05	-21.4	-22.2	-20.5	-22.2	-20.5	-14.7	17.6
.10	-21.5	-22.2	-20.5	-22.1	-20.6	-6.05	9.40
.20	-21.3	-22.2	-20.0	-22.1	-20.0	-3.82	6.72
.40	-20.4	-23.2	-15.0	-23.2	-15.1	-6.98	13.3
.80	-18.0	-25.2	-5.40	-25.0	-5.50	-8.78	15.6

Table L–204. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-1							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Unfiltered F_x^{hst} Max. (kN)	Filtered F_x^{hst} Min. (kN)	Filtered F_x^{hst} Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–205. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-3							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Unfiltered F_x^{hst} Max. (kN)	Filtered F_x^{hst} Min. (kN)	Filtered F_x^{hst} Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Max. (kN)
.05	-16.3	-17.2	-15.4	-17.2	-15.4	-18.1	17.6
.10	-16.3	-18.0	-14.3	-18.0	-14.3	-17.4	19.5
.20	-15.9	-18.8	-12.5	-18.8	-12.5	-14.4	17.2
.40	-15.9	-23.3	-8.27	-23.3	-8.36	-18.5	18.8
.80	-14.0	-24.8	-2.08	-24.7	-2.08	-13.4	14.9

Table L–206. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-4							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Unfiltered F_x^{hst} Max. (kN)	Filtered F_x^{hst} Min. (kN)	Filtered F_x^{hst} Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Max. (kN)
.05	-16.3	-17.2	-15.4	-17.2	-15.4	-18.1	17.6
.10	-16.3	-18.0	-14.3	-18.0	-14.3	-17.4	19.5
.20	-15.9	-18.8	-12.5	-18.8	-12.5	-14.4	17.2
.40	-15.9	-23.3	-8.27	-23.3	-8.36	-18.5	18.8
.80	-14.0	-24.8	-2.08	-24.7	-2.08	-13.4	14.9

Table L–207. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NFA							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Unfiltered F_x^{hst} Max. (kN)	Filtered F_x^{hst} Min. (kN)	Filtered F_x^{hst} Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–208. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NSHIPMO							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Unfiltered F_x^{hst} Max. (kN)	Filtered F_x^{hst} Min. (kN)	Filtered F_x^{hst} Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

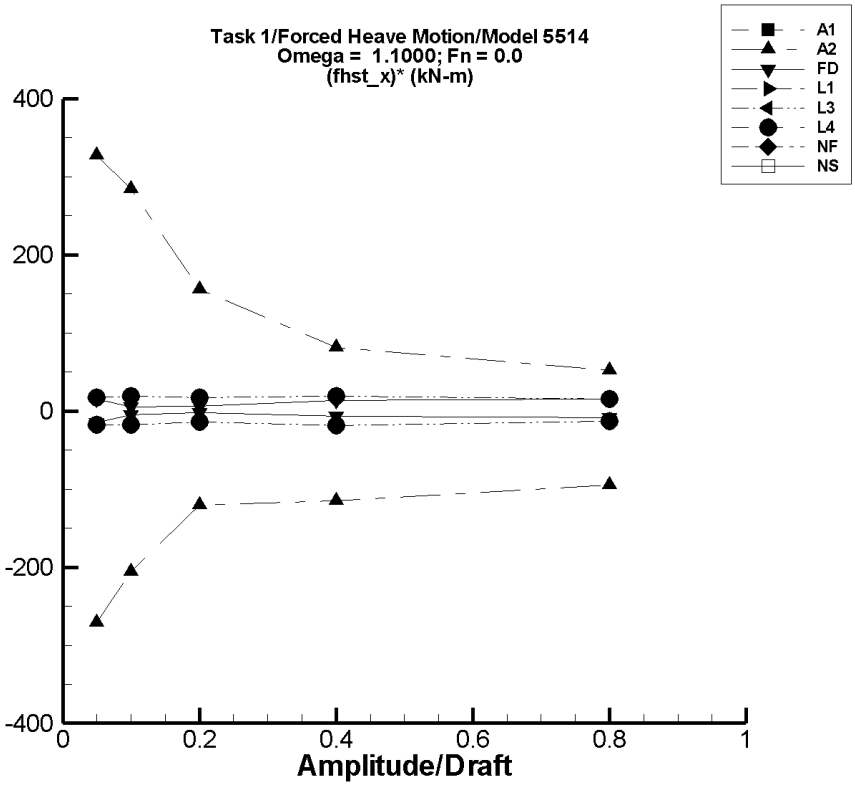

Figure L–27. Minimum and maximum of filtered $\left(F_x^{\text{hst}} - \langle F_x^{\text{hst}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–209. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-1							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Unfiltered F_x^{hst} Max. (kN)	Filtered F_x^{hst} Min. (kN)	Filtered F_x^{hst} Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–210. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-2							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Unfiltered F_x^{hst} Max. (kN)	Filtered F_x^{hst} Min. (kN)	Filtered F_x^{hst} Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Max. (kN)
.05	41.6	27.9	58.6	28.1	58.0	-271.	327.
.10	45.3	24.9	74.6	24.8	73.8	-205.	284.
.20	50.6	24.8	84.4	26.5	81.8	-121.	156.
.40	28.3	-18.3	84.5	-17.8	60.7	-115.	81.1
.80	8.78	-106.	84.1	-67.4	50.1	-95.2	51.7

Table L–211. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

FREDYN							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ **Mean (kN)**	**Unfiltered** F_x^{hst} **Min. (kN)**	**Max. (kN)**	**Filtered** F_x^{hst} **Min. (kN)**	**Max. (kN)**	**Filtered** $\left(F_x^{\text{hst}}\right)^*$ **Min. (kN)**	**Max. (kN)**
.05	-21.4	-22.2	-20.5	-22.2	-20.6	-14.7	15.7
.10	-21.5	-22.2	-20.5	-22.0	-21.0	-4.87	5.11
.20	-21.3	-22.1	-20.0	-21.8	-20.1	-2.44	6.07
.40	-20.4	-23.2	-15.0	-23.1	-15.2	-6.81	12.9
.80	-18.0	-25.0	-5.40	-24.9	-5.92	-8.65	15.1

Table L–212. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-1							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ **Mean (kN)**	**Unfiltered** F_x^{hst} **Min. (kN)**	**Max. (kN)**	**Filtered** F_x^{hst} **Min. (kN)**	**Max. (kN)**	**Filtered** $\left(F_x^{\text{hst}}\right)^*$ **Min. (kN)**	**Max. (kN)**
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–213. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-3							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ **Mean (kN)**	**Unfiltered** F_x^{hst} **Min. (kN)**	**Max. (kN)**	**Filtered** F_x^{hst} **Min. (kN)**	**Max. (kN)**	**Filtered** $\left(F_x^{\text{hst}}\right)^*$ **Min. (kN)**	**Max. (kN)**
.05	-16.3	-17.2	-15.4	-17.2	-15.4	-17.9	17.4
.10	-16.3	-18.0	-14.3	-18.0	-14.3	-17.4	19.3
.20	-15.9	-18.8	-12.5	-18.7	-12.5	-13.8	17.1
.40	-15.9	-23.3	-8.27	-23.3	-8.37	-18.4	18.8
.80	-14.0	-24.8	-2.08	-24.3	-2.14	-12.8	14.9

Table L–214. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-4							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ **Mean (kN)**	**Unfiltered** F_x^{hst} **Min. (kN)**	**Max. (kN)**	**Filtered** F_x^{hst} **Min. (kN)**	**Max. (kN)**	**Filtered** $\left(F_x^{\text{hst}}\right)^*$ **Min. (kN)**	**Max. (kN)**
.05	-16.3	-17.2	-15.4	-17.2	-15.4	-17.9	17.4
.10	-16.3	-18.0	-14.3	-18.0	-14.3	-17.4	19.3
.20	-15.9	-18.8	-12.5	-18.7	-12.5	-13.8	17.1
.40	-15.9	-23.3	-8.27	-23.3	-8.37	-18.4	18.8
.80	-14.0	-24.8	-2.08	-24.3	-2.14	-12.8	14.9

Table L–215. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NFA							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Unfiltered F_x^{hst} Max. (kN)	Filtered F_x^{hst} Min. (kN)	Filtered F_x^{hst} Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–216. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NSHIPMO							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Unfiltered F_x^{hst} Max. (kN)	Filtered F_x^{hst} Min. (kN)	Filtered F_x^{hst} Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

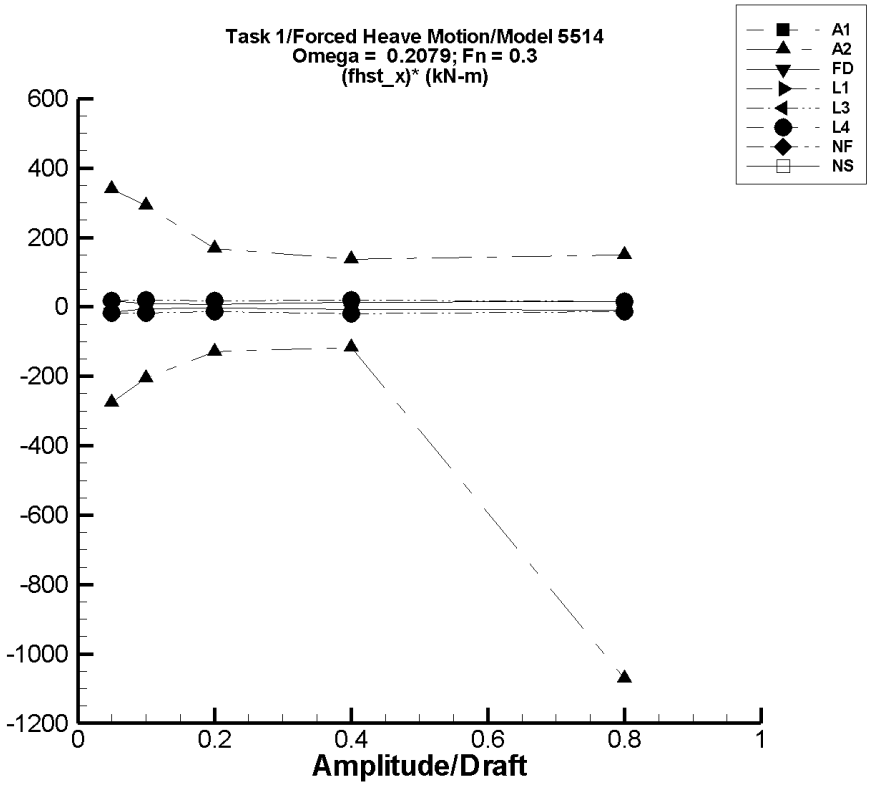

Figure L–28. Minimum and maximum of filtered $\left(F_x^{\text{hst}} - \langle F_x^{\text{hst}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–217. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-1							
(z_a/T)	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$ **Mean (kN)**	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$ **Min. (kN)**	**Max. (kN)**	**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$ **Min. (kN)**	**Max. (kN)**	**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$ **Min. (kN)**	**Max. (kN)**
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–218. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-2							
(z_a/T)	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}} \rangle$ **Mean (kN)**	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$ **Min. (kN)**	**Max. (kN)**	**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}$ **Min. (kN)**	**Max. (kN)**	**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{hst}}\right)^*$ **Min. (kN)**	**Max. (kN)**
.05	41.6	27.9	58.6	27.9	58.6	-275.	339.
.10	45.3	24.9	74.6	24.9	74.5	-205.	292.
.20	50.7	24.8	84.5	24.9	84.4	-129.	169.
.40	28.5	-18.4	84.5	-18.3	83.4	-117.	137.
.80	-41.0	-3.22E+03	84.5	-897.	78.4	-1.07E+03	149.

Table L–219. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

FREDYN							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Unfiltered F_x^{hst} Max. (kN)	Filtered F_x^{hst} Min. (kN)	Filtered F_x^{hst} Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Max. (kN)
.05	-21.4	-22.2	-20.5	-22.2	-20.5	-14.8	17.7
.10	-21.5	-22.2	-20.5	-22.2	-20.5	-6.20	9.85
.20	-21.3	-22.2	-20.0	-22.1	-20.0	-4.17	6.73
.40	-20.4	-23.2	-15.0	-23.2	-15.0	-7.11	13.3
.80	-18.0	-25.2	-5.40	-25.1	-5.42	-8.88	15.7

Table L–220. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-1							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Unfiltered F_x^{hst} Max. (kN)	Filtered F_x^{hst} Min. (kN)	Filtered F_x^{hst} Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–221. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle \boldsymbol{F_x^{\text{hst}}} \rangle$	**Unfiltered** $\boldsymbol{F_x^{\text{hst}}}$		**Filtered** $\boldsymbol{F_x^{\text{hst}}}$		**Filtered** $\left(\boldsymbol{F_x^{\text{hst}}}\right)^*$	
$(\boldsymbol{z_a/T})$	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	-16.3	-17.2	-15.4	-17.2	-15.4	-18.1	17.6
.10	-16.3	-18.0	-14.3	-18.0	-14.3	-17.4	19.5
.20	-15.9	-18.8	-12.5	-18.8	-12.5	-14.4	17.3
.40	-15.9	-23.3	-8.26	-23.3	-8.33	-18.5	18.9
.80	-14.1	-24.8	-2.08	-24.7	-2.08	-13.4	15.0

Table L–222. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle \boldsymbol{F_x^{\text{hst}}} \rangle$	**Unfiltered** $\boldsymbol{F_x^{\text{hst}}}$		**Filtered** $\boldsymbol{F_x^{\text{hst}}}$		**Filtered** $\left(\boldsymbol{F_x^{\text{hst}}}\right)^*$	
$(\boldsymbol{z_a/T})$	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	-16.3	-17.2	-15.4	-17.2	-15.4	-18.1	17.6
.10	-16.3	-18.0	-14.3	-18.0	-14.3	-17.4	19.5
.20	-15.9	-18.8	-12.5	-18.8	-12.5	-14.4	17.3
.40	-15.9	-23.3	-8.26	-23.3	-8.33	-18.5	18.9
.80	-14.1	-24.8	-2.08	-24.7	-2.08	-13.4	15.0

Table L–223. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NFA							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Unfiltered F_x^{hst} Max. (kN)	Filtered F_x^{hst} Min. (kN)	Filtered F_x^{hst} Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–224. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NSHIPMO							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Unfiltered F_x^{hst} Max. (kN)	Filtered F_x^{hst} Min. (kN)	Filtered F_x^{hst} Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

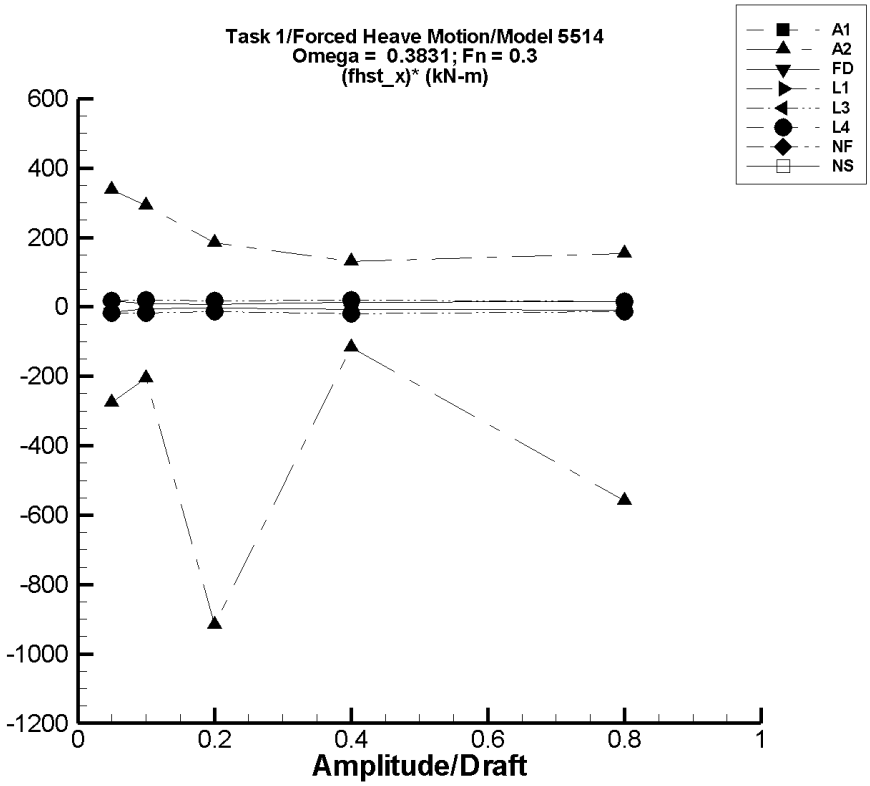

Figure L–29. Minimum and maximum of filtered $\left(F_x^{\text{hst}} - \langle F_x^{\text{hst}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–225. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-1							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Max. (kN)	Filtered F_x^{hst} Min. (kN)	Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–226. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-2							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Max. (kN)	Filtered F_x^{hst} Min. (kN)	Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Max. (kN)
.05	41.6	27.9	58.6	27.8	58.5	-276.	337.
.10	45.3	24.9	74.6	24.8	74.5	-205.	291.
.20	47.2	-1.20E+03	84.5	-136.	84.2	-916.	185.
.40	28.5	-18.4	84.4	-18.1	80.9	-117.	131.
.80	-47.6	-3.21E+03	84.5	-495.	75.3	-559.	154.

Table L–227. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

FREDYN							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ **Mean (kN)**	**Unfiltered** F_x^{hst} **Min. (kN)**	**Max. (kN)**	**Filtered** F_x^{hst} **Min. (kN)**	**Max. (kN)**	**Filtered** $\left(F_x^{\text{hst}}\right)^*$ **Min. (kN)**	**Max. (kN)**
.05	-21.4	-22.2	-20.5	-22.2	-20.5	-14.7	17.6
.10	-21.5	-22.2	-20.5	-22.1	-20.6	-6.04	9.40
.20	-21.3	-22.2	-20.0	-22.1	-20.0	-3.82	6.72
.40	-20.4	-23.2	-15.0	-23.2	-15.1	-6.97	13.3
.80	-18.0	-25.2	-5.40	-25.0	-5.50	-8.78	15.6

Table L–228. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-1							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ **Mean (kN)**	**Unfiltered** F_x^{hst} **Min. (kN)**	**Max. (kN)**	**Filtered** F_x^{hst} **Min. (kN)**	**Max. (kN)**	**Filtered** $\left(F_x^{\text{hst}}\right)^*$ **Min. (kN)**	**Max. (kN)**
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–229. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle \boldsymbol{F_x^{\text{hst}}} \rangle$	**Unfiltered** $\boldsymbol{F_x^{\text{hst}}}$		**Filtered** $\boldsymbol{F_x^{\text{hst}}}$		**Filtered** $\left(\boldsymbol{F_x^{\text{hst}}}\right)^*$	
$(\boldsymbol{z_a/T})$	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	-16.3	-17.2	-15.4	-17.2	-15.4	-18.1	17.6
.10	-16.3	-18.0	-14.3	-18.0	-14.3	-17.4	19.5
.20	-15.9	-18.8	-12.5	-18.8	-12.5	-14.4	17.2
.40	-15.9	-23.3	-8.27	-23.3	-8.36	-18.5	18.8
.80	-14.0	-24.8	-2.08	-24.7	-2.08	-13.4	14.9

Table L–230. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle \boldsymbol{F_x^{\text{hst}}} \rangle$	**Unfiltered** $\boldsymbol{F_x^{\text{hst}}}$		**Filtered** $\boldsymbol{F_x^{\text{hst}}}$		**Filtered** $\left(\boldsymbol{F_x^{\text{hst}}}\right)^*$	
$(\boldsymbol{z_a/T})$	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	-16.3	-17.2	-15.4	-17.2	-15.4	-18.1	17.6
.10	-16.3	-18.0	-14.3	-18.0	-14.3	-17.4	19.5
.20	-15.9	-18.8	-12.5	-18.8	-12.5	-14.4	17.2
.40	-15.9	-23.3	-8.27	-23.3	-8.36	-18.5	18.8
.80	-14.0	-24.8	-2.08	-24.7	-2.08	-13.4	14.9

Table L–231. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NFA							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Unfiltered F_x^{hst} Max. (kN)	Filtered F_x^{hst} Min. (kN)	Filtered F_x^{hst} Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–232. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NSHIPMO							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Unfiltered F_x^{hst} Max. (kN)	Filtered F_x^{hst} Min. (kN)	Filtered F_x^{hst} Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

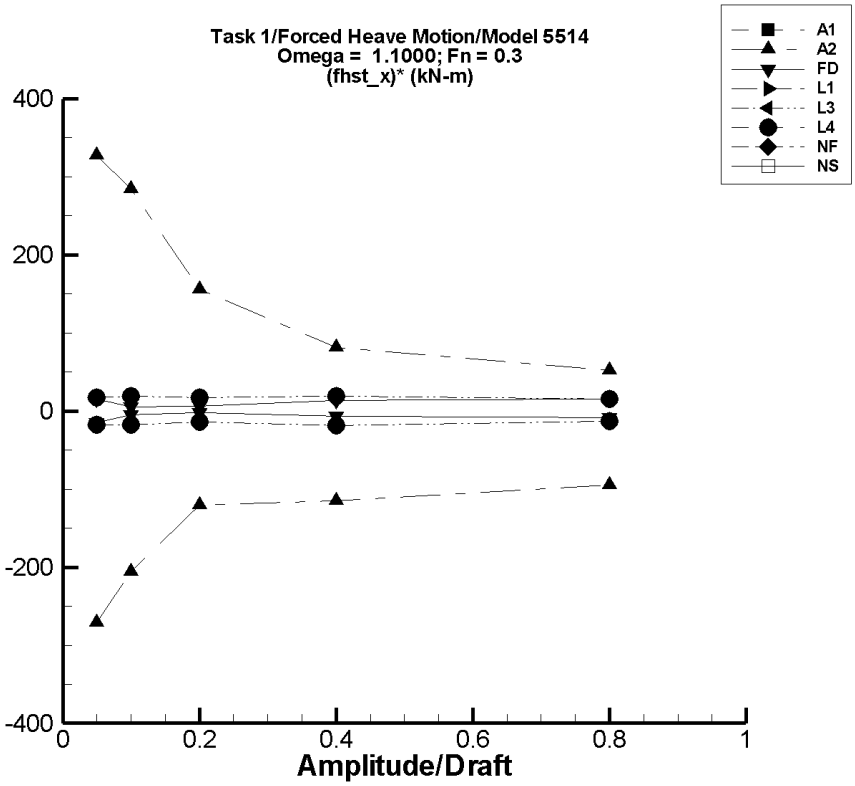

Figure L–30. Minimum and maximum of filtered $\left(F_x^{\text{hst}} - \langle F_x^{\text{hst}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–233. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-1							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Unfiltered F_x^{hst} Max. (kN)	Filtered F_x^{hst} Min. (kN)	Filtered F_x^{hst} Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–234. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-2							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Unfiltered F_x^{hst} Max. (kN)	Filtered F_x^{hst} Min. (kN)	Filtered F_x^{hst} Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Max. (kN)
.05	41.6	27.9	58.6	28.1	58.0	-271.	327.
.10	45.3	24.9	74.6	24.8	73.8	-205.	284.
.20	50.6	24.8	84.4	26.5	81.8	-121.	156.
.40	28.3	-18.3	84.5	-17.8	60.7	-115.	81.1
.80	8.78	-106.	84.1	-67.4	50.1	-95.2	51.7

Table L–235. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

FREDYN							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Unfiltered F_x^{hst} Max. (kN)	Filtered F_x^{hst} Min. (kN)	Filtered F_x^{hst} Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Max. (kN)
.05	-21.4	-22.2	-20.5	-22.2	-20.6	-14.7	15.7
.10	-21.5	-22.2	-20.5	-22.0	-21.0	-4.87	5.11
.20	-21.3	-22.1	-20.0	-21.8	-20.1	-2.44	6.07
.40	-20.4	-23.2	-15.0	-23.1	-15.2	-6.81	12.9
.80	-18.0	-25.0	-5.40	-24.9	-5.92	-8.65	15.1

Table L–236. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-1							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Unfiltered F_x^{hst} Max. (kN)	Filtered F_x^{hst} Min. (kN)	Filtered F_x^{hst} Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–237. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-3							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Unfiltered F_x^{hst} Max. (kN)	Filtered F_x^{hst} Min. (kN)	Filtered F_x^{hst} Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Max. (kN)
.05	-16.3	-17.2	-15.4	-17.2	-15.4	-17.9	17.4
.10	-16.3	-18.0	-14.3	-18.0	-14.3	-17.4	19.3
.20	-15.9	-18.8	-12.5	-18.7	-12.5	-13.8	17.1
.40	-15.9	-23.3	-8.27	-23.3	-8.37	-18.4	18.8
.80	-14.0	-24.8	-2.08	-24.3	-2.14	-12.8	14.9

Table L–238. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-4							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Unfiltered F_x^{hst} Max. (kN)	Filtered F_x^{hst} Min. (kN)	Filtered F_x^{hst} Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Max. (kN)
.05	-16.3	-17.2	-15.4	-17.2	-15.4	-17.9	17.4
.10	-16.3	-18.0	-14.3	-18.0	-14.3	-17.4	19.3
.20	-15.9	-18.8	-12.5	-18.7	-12.5	-13.8	17.1
.40	-15.9	-23.3	-8.27	-23.3	-8.37	-18.4	18.8
.80	-14.0	-24.8	-2.08	-24.3	-2.14	-12.8	14.9

Table L–239. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NFA							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Unfiltered F_x^{hst} Max. (kN)	Filtered F_x^{hst} Min. (kN)	Filtered F_x^{hst} Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–240. Minimum and Maximum of Variables F_x^{hst} and $\left(F_x^{\text{hst}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NSHIPMO							
(z_a/T)	$\langle F_x^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_x^{hst} Min. (kN)	Unfiltered F_x^{hst} Max. (kN)	Filtered F_x^{hst} Min. (kN)	Filtered F_x^{hst} Max. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{hst}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

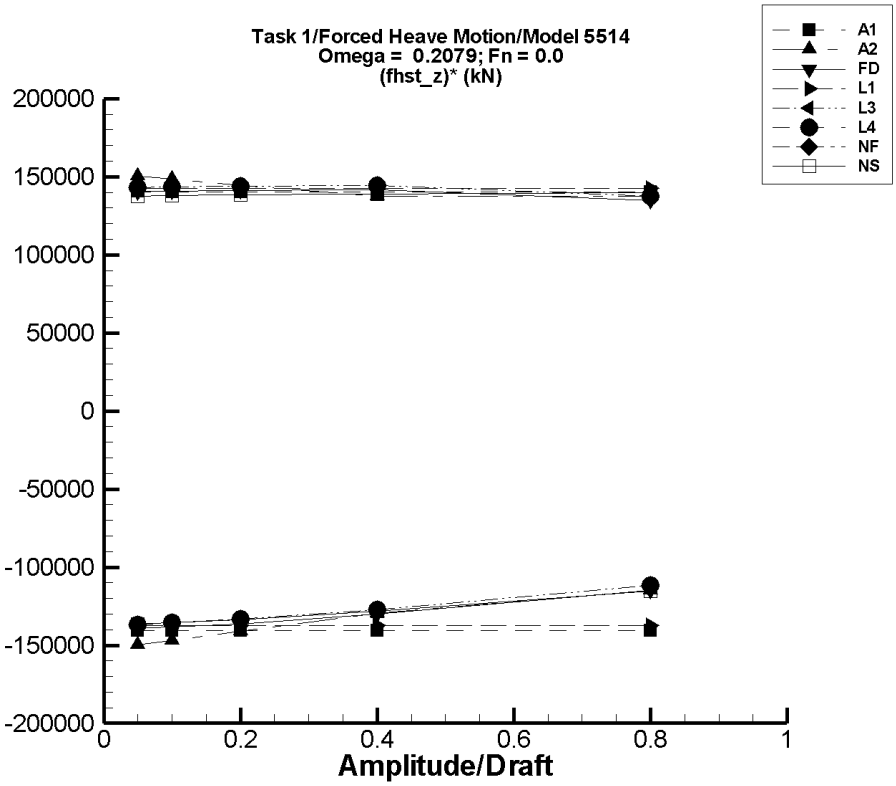

Figure L–31. Minimum and maximum of filtered $\left(F_z^{\text{hst}} - \langle F_z^{\text{hst}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–241. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-1							
(z_a/T)	$\langle F_z^{\text{hst}} \rangle$ **Mean (kN)**	**Unfiltered F_z^{hst} Min. (kN)**	**Max. (kN)**	**Filtered F_z^{hst} Min. (kN)**	**Max. (kN)**	**Filtered $\left(F_z^{\text{hst}}\right)^*$ Min. (kN)**	**Max. (kN)**
.05	9.20E+04	8.49E+04	9.90E+04	8.49E+04	9.90E+04	-1.41E+05	1.40E+05
.10	9.20E+04	7.79E+04	1.06E+05	7.79E+04	1.06E+05	-1.40E+05	1.40E+05
.20	9.20E+04	6.39E+04	1.20E+05	6.39E+04	1.20E+05	-1.40E+05	1.40E+05
.40	9.20E+04	3.58E+04	1.48E+05	3.58E+04	1.48E+05	-1.40E+05	1.40E+05
.80	9.20E+04	-2.04E+04	2.04E+05	-2.04E+04	2.04E+05	-1.40E+05	1.40E+05

Table L–242. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-2							
(z_a/T)	$\langle F_z^{\text{hst}} \rangle$ **Mean (kN)**	**Unfiltered F_z^{hst} Min. (kN)**	**Max. (kN)**	**Filtered F_z^{hst} Min. (kN)**	**Max. (kN)**	**Filtered $\left(F_z^{\text{hst}}\right)^*$ Min. (kN)**	**Max. (kN)**
.05	9.20E+04	8.45E+04	9.95E+04	8.45E+04	9.95E+04	-1.50E+05	1.50E+05
.10	9.20E+04	7.73E+04	1.07E+05	7.74E+04	1.07E+05	-1.47E+05	1.48E+05
.20	9.23E+04	6.41E+04	1.21E+05	6.41E+04	1.21E+05	-1.41E+05	1.44E+05
.40	9.33E+04	4.14E+04	1.48E+05	4.15E+04	1.48E+05	-1.30E+05	1.38E+05
.80	9.97E+04	7.81E+03	2.09E+05	7.77E+03	2.10E+05	-1.15E+05	1.37E+05

Table L–243. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle F_z^{\text{hst}} \rangle$	**Unfiltered** F_z^{hst}		**Filtered** F_z^{hst}		**Filtered** $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	9.20E+04	8.51E+04	9.91E+04	8.51E+04	9.91E+04	-1.39E+05	1.40E+05
.10	9.21E+04	7.83E+04	1.06E+05	7.83E+04	1.06E+05	-1.39E+05	1.41E+05
.20	9.25E+04	6.52E+04	1.21E+05	6.52E+04	1.21E+05	-1.36E+05	1.41E+05
.40	9.42E+04	4.21E+04	1.51E+05	4.21E+04	1.51E+05	-1.30E+05	1.42E+05
.80	1.01E+05	8.79E+03	2.09E+05	8.84E+03	2.09E+05	-1.15E+05	1.35E+05

Table L–244. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle F_z^{\text{hst}} \rangle$	**Unfiltered** F_z^{hst}		**Filtered** F_z^{hst}		**Filtered** $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	9.18E+04	8.48E+04	9.88E+04	8.48E+04	9.88E+04	-1.40E+05	1.40E+05
.10	9.18E+04	7.78E+04	1.06E+05	7.78E+04	1.06E+05	-1.40E+05	1.40E+05
.20	9.18E+04	6.38E+04	1.20E+05	6.38E+04	1.20E+05	-1.40E+05	1.40E+05
.40	9.18E+04	3.58E+04	1.48E+05	3.59E+04	1.48E+05	-1.40E+05	1.40E+05
.80	9.18E+04	-2.01E+04	2.04E+05	-2.01E+04	2.04E+05	-1.40E+05	1.40E+05

Table L–245. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.18E+04	8.48E+04	9.88E+04	8.48E+04	9.88E+04	-1.39E+05	1.40E+05
.10	9.19E+04	7.80E+04	1.06E+05	7.81E+04	1.06E+05	-1.38E+05	1.41E+05
.20	9.23E+04	6.50E+04	1.21E+05	6.50E+04	1.21E+05	-1.36E+05	1.41E+05
.40	9.39E+04	4.20E+04	1.51E+05	4.20E+04	1.51E+05	-1.30E+05	1.42E+05
.80	1.00E+05	8.71E+03	2.08E+05	8.73E+03	2.08E+05	-1.15E+05	1.35E+05

Table L–246. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.18E+04	8.48E+04	9.88E+04	8.48E+04	9.88E+04	-1.39E+05	1.40E+05
.10	9.19E+04	7.80E+04	1.06E+05	7.81E+04	1.06E+05	-1.38E+05	1.41E+05
.20	9.23E+04	6.50E+04	1.21E+05	6.50E+04	1.21E+05	-1.36E+05	1.41E+05
.40	9.39E+04	4.20E+04	1.51E+05	4.20E+04	1.51E+05	-1.30E+05	1.42E+05
.80	1.00E+05	8.71E+03	2.08E+05	8.73E+03	2.08E+05	-1.15E+05	1.35E+05

Table L–247. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NFA							
(z_a/T)	$\langle F_z^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_z^{hst} Min. (kN)	Unfiltered F_z^{hst} Max. (kN)	Filtered F_z^{hst} Min. (kN)	Filtered F_z^{hst} Max. (kN)	Filtered $\left(F_z^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_z^{\text{hst}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–248. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NSHIPMO							
(z_a/T)	$\langle F_z^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_z^{hst} Min. (kN)	Unfiltered F_z^{hst} Max. (kN)	Filtered F_z^{hst} Min. (kN)	Filtered F_z^{hst} Max. (kN)	Filtered $\left(F_z^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_z^{\text{hst}}\right)^*$ Max. (kN)
.05	9.20E+04	8.51E+04	9.89E+04	8.52E+04	9.89E+04	-1.36E+05	1.38E+05
.10	9.21E+04	7.84E+04	1.06E+05	7.85E+04	1.06E+05	-1.35E+05	1.38E+05
.20	9.25E+04	6.54E+04	1.20E+05	6.57E+04	1.20E+05	-1.34E+05	1.38E+05
.40	9.41E+04	4.23E+04	1.50E+05	4.28E+04	1.50E+05	-1.28E+05	1.39E+05
.80	1.01E+05	8.99E+03	2.14E+05	9.21E+03	2.13E+05	-1.15E+05	1.40E+05

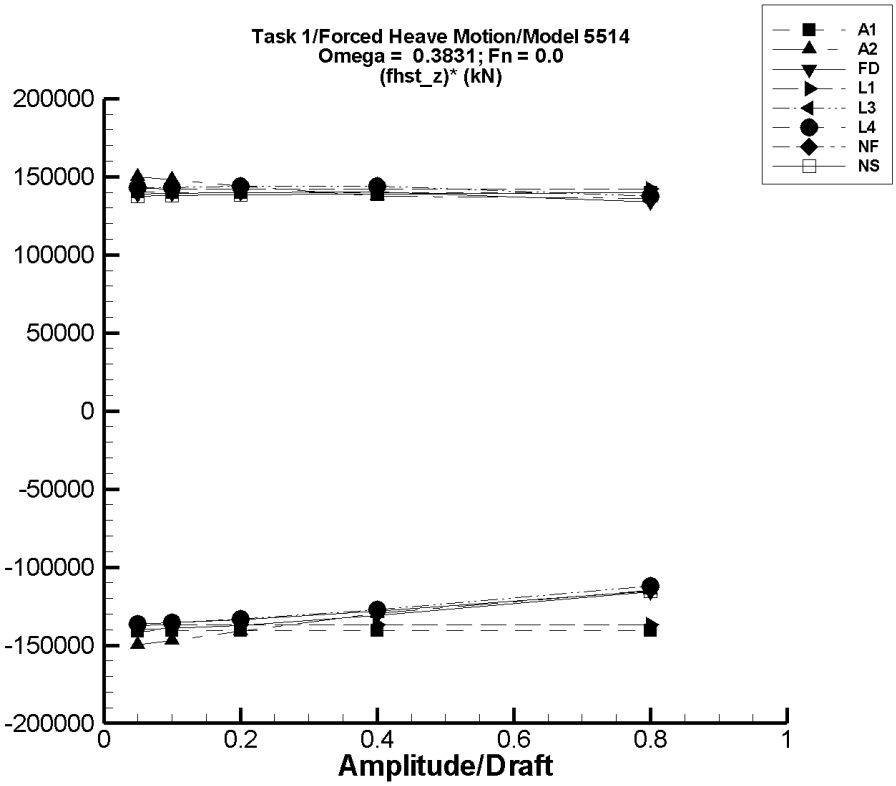

Figure L–32. Minimum and maximum of filtered $\left(F_z^{\text{hst}} - \langle F_z^{\text{hst}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–249. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.20E+04	8.49E+04	9.90E+04	8.49E+04	9.90E+04	-1.41E+05	1.40E+05
.10	9.20E+04	7.79E+04	1.06E+05	7.79E+04	1.06E+05	-1.41E+05	1.40E+05
.20	9.20E+04	6.39E+04	1.20E+05	6.38E+04	1.20E+05	-1.41E+05	1.40E+05
.40	9.20E+04	3.58E+04	1.48E+05	3.56E+04	1.48E+05	-1.41E+05	1.40E+05
.80	9.20E+04	-2.04E+04	2.04E+05	-2.07E+04	2.04E+05	-1.41E+05	1.40E+05

Table L–250. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.20E+04	8.45E+04	9.95E+04	8.45E+04	9.95E+04	-1.50E+05	1.50E+05
.10	9.20E+04	7.73E+04	1.07E+05	7.73E+04	1.07E+05	-1.47E+05	1.48E+05
.20	9.23E+04	6.41E+04	1.21E+05	6.40E+04	1.21E+05	-1.41E+05	1.44E+05
.40	9.33E+04	4.14E+04	1.48E+05	4.14E+04	1.48E+05	-1.30E+05	1.37E+05
.80	9.97E+04	7.81E+03	2.09E+05	7.59E+03	2.09E+05	-1.15E+05	1.36E+05

Table L–251. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.20E+04	8.51E+04	9.91E+04	8.51E+04	9.90E+04	-1.39E+05	1.40E+05
.10	9.21E+04	7.83E+04	1.06E+05	7.83E+04	1.06E+05	-1.38E+05	1.40E+05
.20	9.25E+04	6.52E+04	1.21E+05	6.53E+04	1.21E+05	-1.36E+05	1.41E+05
.40	9.42E+04	4.21E+04	1.51E+05	4.23E+04	1.51E+05	-1.30E+05	1.41E+05
.80	1.01E+05	8.79E+03	2.09E+05	8.95E+03	2.08E+05	-1.15E+05	1.35E+05

Table L–252. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.18E+04	8.48E+04	9.88E+04	8.48E+04	9.88E+04	-1.40E+05	1.40E+05
.10	9.18E+04	7.78E+04	1.06E+05	7.78E+04	1.06E+05	-1.40E+05	1.40E+05
.20	9.18E+04	6.38E+04	1.20E+05	6.39E+04	1.20E+05	-1.40E+05	1.40E+05
.40	9.18E+04	3.58E+04	1.48E+05	3.59E+04	1.48E+05	-1.40E+05	1.40E+05
.80	9.18E+04	-2.01E+04	2.04E+05	-2.00E+04	2.04E+05	-1.40E+05	1.40E+05

Table L–253. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.18E+04	8.48E+04	9.88E+04	8.48E+04	9.88E+04	-1.39E+05	1.40E+05
.10	9.19E+04	7.80E+04	1.06E+05	7.81E+04	1.06E+05	-1.38E+05	1.41E+05
.20	9.23E+04	6.50E+04	1.21E+05	6.50E+04	1.20E+05	-1.36E+05	1.41E+05
.40	9.39E+04	4.20E+04	1.51E+05	4.20E+04	1.50E+05	-1.30E+05	1.41E+05
.80	1.00E+05	8.72E+03	2.08E+05	8.78E+03	2.08E+05	-1.15E+05	1.35E+05

Table L–254. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.18E+04	8.48E+04	9.88E+04	8.48E+04	9.88E+04	-1.39E+05	1.40E+05
.10	9.19E+04	7.80E+04	1.06E+05	7.81E+04	1.06E+05	-1.38E+05	1.41E+05
.20	9.23E+04	6.50E+04	1.21E+05	6.50E+04	1.20E+05	-1.36E+05	1.41E+05
.40	9.39E+04	4.20E+04	1.51E+05	4.20E+04	1.50E+05	-1.30E+05	1.41E+05
.80	1.00E+05	8.72E+03	2.08E+05	8.78E+03	2.08E+05	-1.15E+05	1.35E+05

Table L–255. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NFA							
(z_a/T)	$\langle F_z^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_z^{hst} Min. (kN)	Unfiltered F_z^{hst} Max. (kN)	Filtered F_z^{hst} Min. (kN)	Filtered F_z^{hst} Max. (kN)	Filtered $\left(F_z^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_z^{\text{hst}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–256. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NSHIPMO							
(z_a/T)	$\langle F_z^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_z^{hst} Min. (kN)	Unfiltered F_z^{hst} Max. (kN)	Filtered F_z^{hst} Min. (kN)	Filtered F_z^{hst} Max. (kN)	Filtered $\left(F_z^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_z^{\text{hst}}\right)^*$ Max. (kN)
.05	9.20E+04	8.51E+04	9.89E+04	8.52E+04	9.89E+04	-1.36E+05	1.38E+05
.10	9.21E+04	7.84E+04	1.06E+05	7.86E+04	1.06E+05	-1.35E+05	1.38E+05
.20	9.25E+04	6.55E+04	1.20E+05	6.57E+04	1.20E+05	-1.34E+05	1.38E+05
.40	9.41E+04	4.23E+04	1.50E+05	4.28E+04	1.50E+05	-1.28E+05	1.39E+05
.80	1.01E+05	8.99E+03	2.14E+05	9.21E+03	2.13E+05	-1.15E+05	1.40E+05

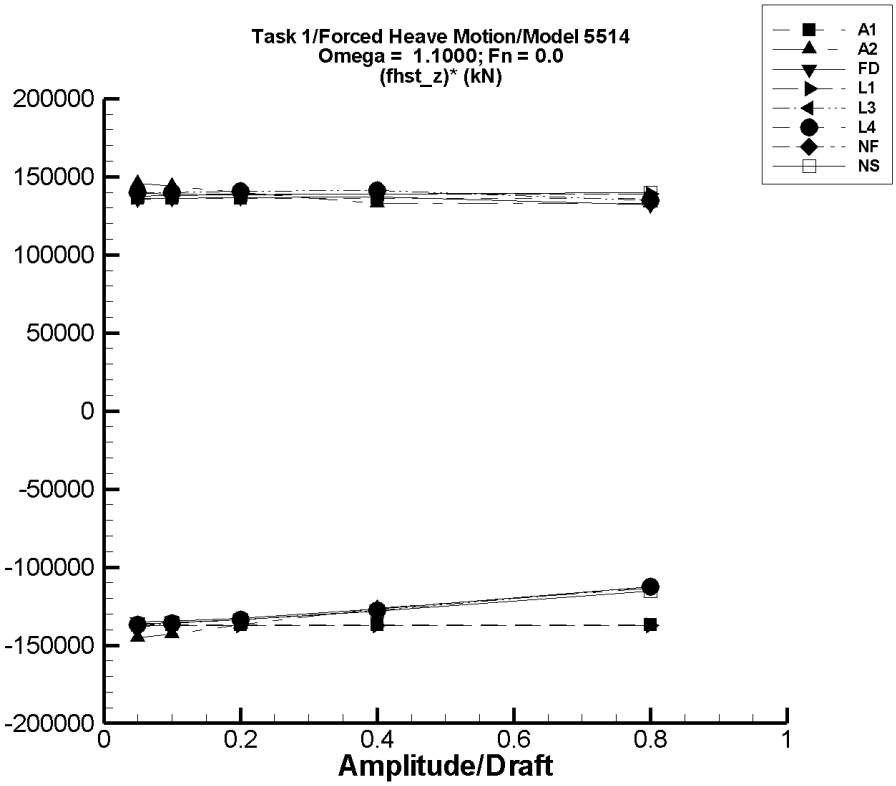

Figure L–33. Minimum and maximum of filtered $\left(F_z^{\text{hst}} - \langle F_z^{\text{hst}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–257. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.20E+04	8.49E+04	9.90E+04	8.51E+04	9.88E+04	-1.37E+05	1.36E+05
.10	9.20E+04	7.79E+04	1.06E+05	7.83E+04	1.06E+05	-1.37E+05	1.36E+05
.20	9.20E+04	6.39E+04	1.20E+05	6.46E+04	1.19E+05	-1.37E+05	1.36E+05
.40	9.20E+04	3.58E+04	1.48E+05	3.72E+04	1.46E+05	-1.37E+05	1.36E+05
.80	9.20E+04	-2.04E+04	2.04E+05	-1.77E+04	2.01E+05	-1.37E+05	1.36E+05

Table L–258. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.20E+04	8.45E+04	9.95E+04	8.47E+04	9.93E+04	-1.45E+05	1.46E+05
.10	9.20E+04	7.73E+04	1.07E+05	7.78E+04	1.06E+05	-1.43E+05	1.44E+05
.20	9.23E+04	6.41E+04	1.21E+05	6.49E+04	1.20E+05	-1.37E+05	1.40E+05
.40	9.33E+04	4.14E+04	1.48E+05	4.28E+04	1.47E+05	-1.26E+05	1.33E+05
.80	1.00E+05	7.81E+03	2.09E+05	9.39E+03	2.06E+05	-1.13E+05	1.33E+05

Table L–259. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.20E+04	8.51E+04	9.91E+04	8.53E+04	9.88E+04	-1.35E+05	1.36E+05
.10	9.21E+04	7.83E+04	1.06E+05	7.87E+04	1.06E+05	-1.34E+05	1.36E+05
.20	9.25E+04	6.52E+04	1.21E+05	6.60E+04	1.20E+05	-1.32E+05	1.37E+05
.40	9.42E+04	4.21E+04	1.51E+05	4.35E+04	1.49E+05	-1.27E+05	1.37E+05
.80	1.01E+05	8.79E+03	2.09E+05	1.03E+04	2.06E+05	-1.13E+05	1.32E+05

Table L–260. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.18E+04	8.48E+04	9.88E+04	8.49E+04	9.87E+04	-1.38E+05	1.38E+05
.10	9.18E+04	7.78E+04	1.06E+05	7.80E+04	1.06E+05	-1.38E+05	1.38E+05
.20	9.18E+04	6.38E+04	1.20E+05	6.41E+04	1.19E+05	-1.38E+05	1.38E+05
.40	9.18E+04	3.59E+04	1.48E+05	3.65E+04	1.47E+05	-1.38E+05	1.38E+05
.80	9.18E+04	-2.01E+04	2.04E+05	-1.88E+04	2.02E+05	-1.38E+05	1.38E+05

Table L–261. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.18E+04	8.48E+04	9.88E+04	8.49E+04	9.88E+04	-1.38E+05	1.39E+05
.10	9.19E+04	7.81E+04	1.06E+05	7.82E+04	1.06E+05	-1.37E+05	1.39E+05
.20	9.23E+04	6.50E+04	1.21E+05	6.53E+04	1.20E+05	-1.35E+05	1.40E+05
.40	9.39E+04	4.20E+04	1.51E+05	4.25E+04	1.50E+05	-1.29E+05	1.40E+05
.80	1.00E+05	8.73E+03	2.08E+05	9.26E+03	2.07E+05	-1.14E+05	1.34E+05

Table L–262. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.18E+04	8.48E+04	9.88E+04	8.49E+04	9.88E+04	-1.38E+05	1.39E+05
.10	9.19E+04	7.81E+04	1.06E+05	7.82E+04	1.06E+05	-1.37E+05	1.39E+05
.20	9.23E+04	6.50E+04	1.21E+05	6.53E+04	1.20E+05	-1.35E+05	1.40E+05
.40	9.39E+04	4.20E+04	1.51E+05	4.25E+04	1.50E+05	-1.29E+05	1.40E+05
.80	1.00E+05	8.73E+03	2.08E+05	9.26E+03	2.07E+05	-1.14E+05	1.34E+05

Table L–263. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NFA							
(z_a/T)	$\langle F_z^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_z^{hst} Min. (kN)	Unfiltered F_z^{hst} Max. (kN)	Filtered F_z^{hst} Min. (kN)	Filtered F_z^{hst} Max. (kN)	Filtered $\left(F_z^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_z^{\text{hst}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–264. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NSHIPMO							
(z_a/T)	$\langle F_z^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_z^{hst} Min. (kN)	Unfiltered F_z^{hst} Max. (kN)	Filtered F_z^{hst} Min. (kN)	Filtered F_z^{hst} Max. (kN)	Filtered $\left(F_z^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_z^{\text{hst}}\right)^*$ Max. (kN)
.05	9.20E+04	8.51E+04	9.89E+04	8.52E+04	9.89E+04	-1.36E+05	1.38E+05
.10	9.21E+04	7.84E+04	1.06E+05	7.86E+04	1.06E+05	-1.35E+05	1.38E+05
.20	9.25E+04	6.55E+04	1.20E+05	6.57E+04	1.20E+05	-1.34E+05	1.38E+05
.40	9.41E+04	4.23E+04	1.50E+05	4.28E+04	1.50E+05	-1.28E+05	1.39E+05
.80	1.01E+05	8.99E+03	2.14E+05	9.21E+03	2.13E+05	-1.15E+05	1.40E+05

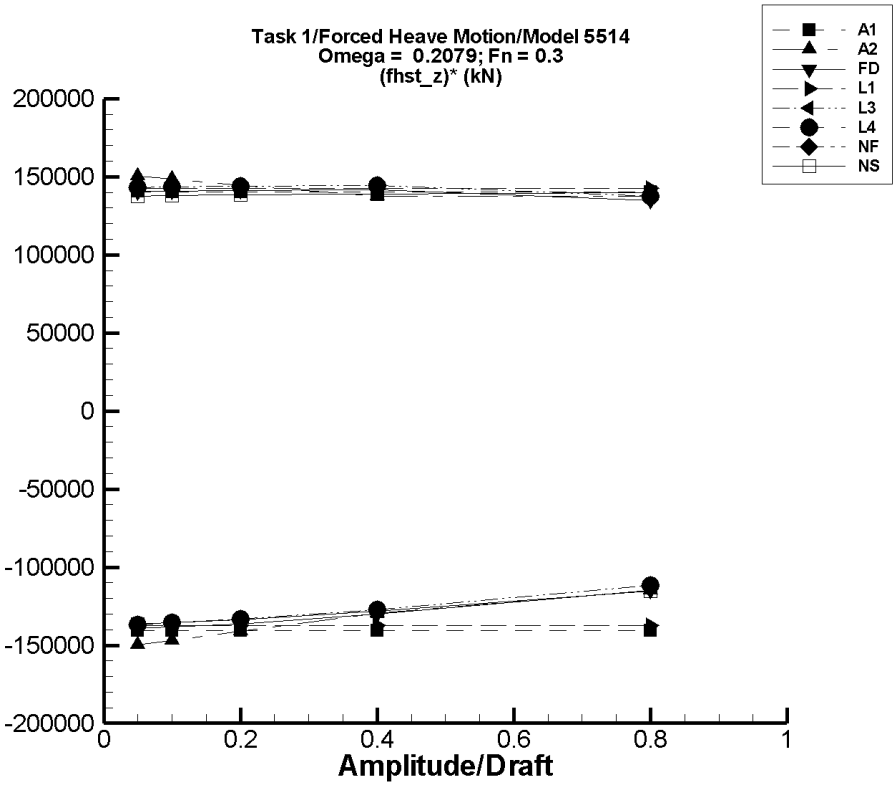

Figure L–34. Minimum and maximum of filtered $\left(F_z^{\text{hst}} - \langle F_z^{\text{hst}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–265. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.20E+04	8.49E+04	9.90E+04	8.49E+04	9.90E+04	-1.41E+05	1.40E+05
.10	9.20E+04	7.79E+04	1.06E+05	7.79E+04	1.06E+05	-1.40E+05	1.40E+05
.20	9.20E+04	6.39E+04	1.20E+05	6.39E+04	1.20E+05	-1.40E+05	1.40E+05
.40	9.20E+04	3.58E+04	1.48E+05	3.58E+04	1.48E+05	-1.40E+05	1.40E+05
.80	9.20E+04	-2.04E+04	2.04E+05	-2.04E+04	2.04E+05	-1.40E+05	1.40E+05

Table L–266. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.20E+04	8.45E+04	9.95E+04	8.45E+04	9.95E+04	-1.50E+05	1.50E+05
.10	9.20E+04	7.73E+04	1.07E+05	7.74E+04	1.07E+05	-1.47E+05	1.48E+05
.20	9.23E+04	6.41E+04	1.21E+05	6.41E+04	1.21E+05	-1.41E+05	1.44E+05
.40	9.33E+04	4.14E+04	1.48E+05	4.15E+04	1.48E+05	-1.30E+05	1.38E+05
.80	9.97E+04	7.81E+03	2.09E+05	7.77E+03	2.10E+05	-1.15E+05	1.37E+05

Table L–267. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.20E+04	8.51E+04	9.91E+04	8.51E+04	9.91E+04	-1.39E+05	1.40E+05
.10	9.21E+04	7.83E+04	1.06E+05	7.83E+04	1.06E+05	-1.39E+05	1.41E+05
.20	9.25E+04	6.52E+04	1.21E+05	6.52E+04	1.21E+05	-1.36E+05	1.41E+05
.40	9.42E+04	4.21E+04	1.51E+05	4.21E+04	1.51E+05	-1.30E+05	1.42E+05
.80	1.01E+05	8.79E+03	2.09E+05	8.84E+03	2.09E+05	-1.15E+05	1.35E+05

Table L–268. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.18E+04	8.48E+04	9.88E+04	8.48E+04	9.88E+04	-1.40E+05	1.40E+05
.10	9.18E+04	7.78E+04	1.06E+05	7.78E+04	1.06E+05	-1.40E+05	1.40E+05
.20	9.18E+04	6.38E+04	1.20E+05	6.38E+04	1.20E+05	-1.40E+05	1.40E+05
.40	9.18E+04	3.58E+04	1.48E+05	3.59E+04	1.48E+05	-1.40E+05	1.40E+05
.80	9.18E+04	-2.01E+04	2.04E+05	-2.01E+04	2.04E+05	-1.40E+05	1.40E+05

Table L–269. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.18E+04	8.48E+04	9.88E+04	8.48E+04	9.88E+04	-1.39E+05	1.40E+05
.10	9.19E+04	7.80E+04	1.06E+05	7.81E+04	1.06E+05	-1.38E+05	1.41E+05
.20	9.23E+04	6.50E+04	1.21E+05	6.50E+04	1.21E+05	-1.36E+05	1.41E+05
.40	9.39E+04	4.20E+04	1.51E+05	4.20E+04	1.51E+05	-1.30E+05	1.42E+05
.80	1.00E+05	8.71E+03	2.08E+05	8.73E+03	2.08E+05	-1.15E+05	1.35E+05

Table L–270. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.18E+04	8.48E+04	9.88E+04	8.48E+04	9.88E+04	-1.39E+05	1.40E+05
.10	9.19E+04	7.80E+04	1.06E+05	7.81E+04	1.06E+05	-1.38E+05	1.41E+05
.20	9.23E+04	6.50E+04	1.21E+05	6.50E+04	1.21E+05	-1.36E+05	1.41E+05
.40	9.39E+04	4.20E+04	1.51E+05	4.20E+04	1.51E+05	-1.30E+05	1.42E+05
.80	1.00E+05	8.71E+03	2.08E+05	8.73E+03	2.08E+05	-1.15E+05	1.35E+05

Table L–271. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NFA							
(z_a/T)	$\langle F_z^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_z^{hst} Min. (kN)	Unfiltered F_z^{hst} Max. (kN)	Filtered F_z^{hst} Min. (kN)	Filtered F_z^{hst} Max. (kN)	Filtered $\left(F_z^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_z^{\text{hst}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–272. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NSHIPMO							
(z_a/T)	$\langle F_z^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_z^{hst} Min. (kN)	Unfiltered F_z^{hst} Max. (kN)	Filtered F_z^{hst} Min. (kN)	Filtered F_z^{hst} Max. (kN)	Filtered $\left(F_z^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_z^{\text{hst}}\right)^*$ Max. (kN)
.05	9.20E+04	8.51E+04	9.89E+04	8.52E+04	9.89E+04	-1.36E+05	1.38E+05
.10	9.21E+04	7.84E+04	1.06E+05	7.85E+04	1.06E+05	-1.35E+05	1.38E+05
.20	9.25E+04	6.54E+04	1.20E+05	6.57E+04	1.20E+05	-1.34E+05	1.38E+05
.40	9.41E+04	4.23E+04	1.50E+05	4.28E+04	1.50E+05	-1.28E+05	1.39E+05
.80	1.01E+05	8.99E+03	2.14E+05	9.21E+03	2.13E+05	-1.15E+05	1.40E+05

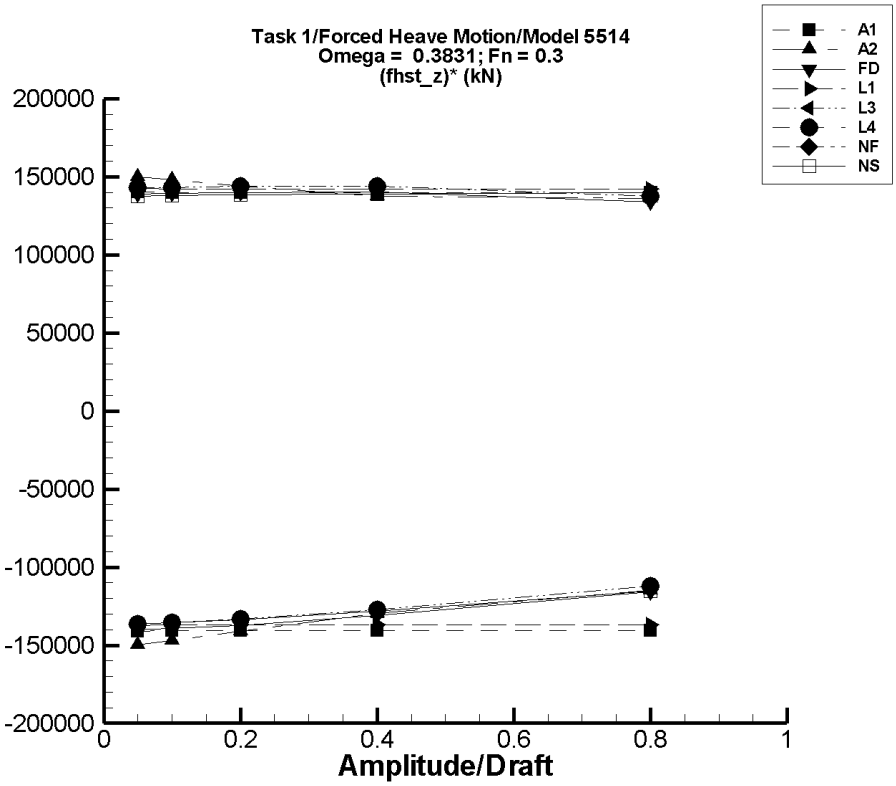

Figure L–35. Minimum and maximum of filtered $\left(F_z^{\text{hst}} - \langle F_z^{\text{hst}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–273. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.20E+04	8.49E+04	9.90E+04	8.49E+04	9.90E+04	-1.41E+05	1.40E+05
.10	9.20E+04	7.79E+04	1.06E+05	7.79E+04	1.06E+05	-1.41E+05	1.40E+05
.20	9.20E+04	6.39E+04	1.20E+05	6.38E+04	1.20E+05	-1.41E+05	1.40E+05
.40	9.20E+04	3.58E+04	1.48E+05	3.56E+04	1.48E+05	-1.41E+05	1.40E+05
.80	9.20E+04	-2.04E+04	2.04E+05	-2.07E+04	2.04E+05	-1.41E+05	1.40E+05

Table L–274. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.20E+04	8.45E+04	9.95E+04	8.45E+04	9.95E+04	-1.50E+05	1.50E+05
.10	9.20E+04	7.73E+04	1.07E+05	7.73E+04	1.07E+05	-1.47E+05	1.48E+05
.20	9.23E+04	6.41E+04	1.21E+05	6.40E+04	1.21E+05	-1.41E+05	1.44E+05
.40	9.33E+04	4.14E+04	1.48E+05	4.14E+04	1.48E+05	-1.30E+05	1.37E+05
.80	9.97E+04	7.81E+03	2.09E+05	7.59E+03	2.09E+05	-1.15E+05	1.36E+05

Table L–275. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.20E+04	8.51E+04	9.91E+04	8.51E+04	9.90E+04	-1.39E+05	1.40E+05
.10	9.21E+04	7.83E+04	1.06E+05	7.83E+04	1.06E+05	-1.38E+05	1.40E+05
.20	9.25E+04	6.52E+04	1.21E+05	6.53E+04	1.21E+05	-1.36E+05	1.41E+05
.40	9.42E+04	4.21E+04	1.51E+05	4.23E+04	1.51E+05	-1.30E+05	1.41E+05
.80	1.01E+05	8.79E+03	2.09E+05	8.95E+03	2.08E+05	-1.15E+05	1.35E+05

Table L–276. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.18E+04	8.48E+04	9.88E+04	8.48E+04	9.88E+04	-1.40E+05	1.40E+05
.10	9.18E+04	7.78E+04	1.06E+05	7.78E+04	1.06E+05	-1.40E+05	1.40E+05
.20	9.18E+04	6.38E+04	1.20E+05	6.39E+04	1.20E+05	-1.40E+05	1.40E+05
.40	9.18E+04	3.58E+04	1.48E+05	3.59E+04	1.48E+05	-1.40E+05	1.40E+05
.80	9.18E+04	-2.01E+04	2.04E+05	-2.00E+04	2.04E+05	-1.40E+05	1.40E+05

Table L–277. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.18E+04	8.48E+04	9.88E+04	8.48E+04	9.88E+04	-1.39E+05	1.40E+05
.10	9.19E+04	7.80E+04	1.06E+05	7.81E+04	1.06E+05	-1.38E+05	1.41E+05
.20	9.23E+04	6.50E+04	1.21E+05	6.50E+04	1.20E+05	-1.36E+05	1.41E+05
.40	9.39E+04	4.20E+04	1.51E+05	4.20E+04	1.50E+05	-1.30E+05	1.41E+05
.80	1.00E+05	8.72E+03	2.08E+05	8.78E+03	2.08E+05	-1.15E+05	1.35E+05

Table L–278. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.18E+04	8.48E+04	9.88E+04	8.48E+04	9.88E+04	-1.39E+05	1.40E+05
.10	9.19E+04	7.80E+04	1.06E+05	7.81E+04	1.06E+05	-1.38E+05	1.41E+05
.20	9.23E+04	6.50E+04	1.21E+05	6.50E+04	1.20E+05	-1.36E+05	1.41E+05
.40	9.39E+04	4.20E+04	1.51E+05	4.20E+04	1.50E+05	-1.30E+05	1.41E+05
.80	1.00E+05	8.72E+03	2.08E+05	8.78E+03	2.08E+05	-1.15E+05	1.35E+05

Table L–279. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NFA							
(z_a/T)	$\langle F_z^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_z^{hst} Min. (kN)	Unfiltered F_z^{hst} Max. (kN)	Filtered F_z^{hst} Min. (kN)	Filtered F_z^{hst} Max. (kN)	Filtered $\left(F_z^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_z^{\text{hst}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–280. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NSHIPMO							
(z_a/T)	$\langle F_z^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_z^{hst} Min. (kN)	Unfiltered F_z^{hst} Max. (kN)	Filtered F_z^{hst} Min. (kN)	Filtered F_z^{hst} Max. (kN)	Filtered $\left(F_z^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_z^{\text{hst}}\right)^*$ Max. (kN)
.05	9.20E+04	8.51E+04	9.89E+04	8.52E+04	9.89E+04	-1.36E+05	1.38E+05
.10	9.21E+04	7.84E+04	1.06E+05	7.86E+04	1.06E+05	-1.35E+05	1.38E+05
.20	9.25E+04	6.55E+04	1.20E+05	6.57E+04	1.20E+05	-1.34E+05	1.38E+05
.40	9.41E+04	4.23E+04	1.50E+05	4.28E+04	1.50E+05	-1.28E+05	1.39E+05
.80	1.01E+05	8.99E+03	2.14E+05	9.21E+03	2.13E+05	-1.15E+05	1.40E+05

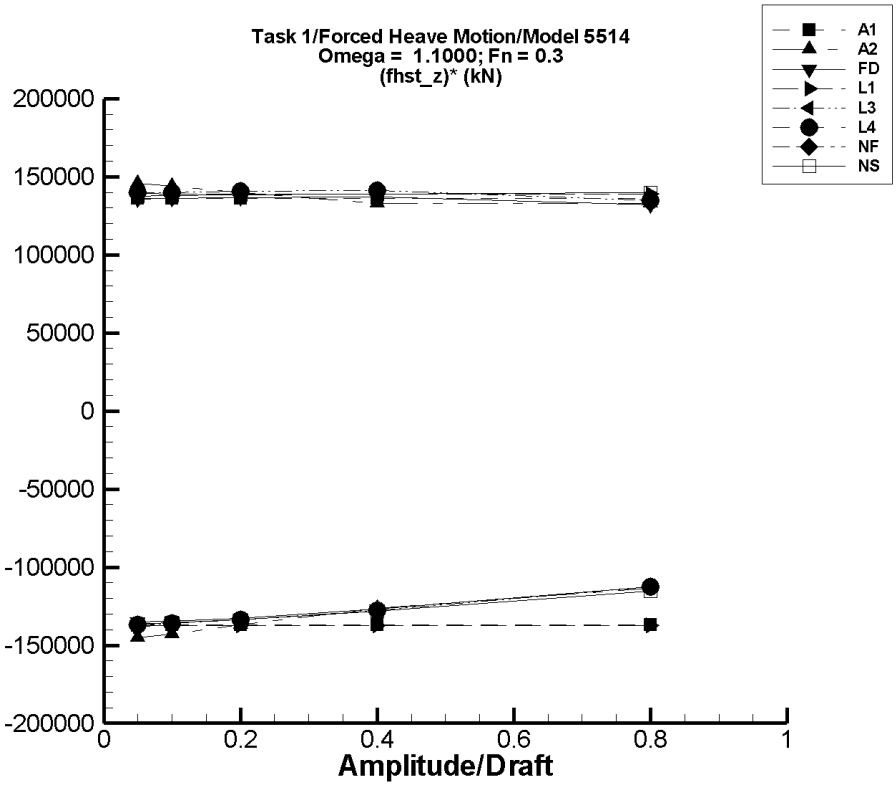

Figure L–36. Minimum and maximum of filtered $\left(F_z^{\text{hst}} - \langle F_z^{\text{hst}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–281. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.20E+04	8.49E+04	9.90E+04	8.51E+04	9.88E+04	-1.37E+05	1.36E+05
.10	9.20E+04	7.79E+04	1.06E+05	7.83E+04	1.06E+05	-1.37E+05	1.36E+05
.20	9.20E+04	6.39E+04	1.20E+05	6.46E+04	1.19E+05	-1.37E+05	1.36E+05
.40	9.20E+04	3.58E+04	1.48E+05	3.72E+04	1.46E+05	-1.37E+05	1.36E+05
.80	9.20E+04	-2.04E+04	2.04E+05	-1.77E+04	2.01E+05	-1.37E+05	1.36E+05

Table L–282. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.20E+04	8.45E+04	9.95E+04	8.47E+04	9.93E+04	-1.45E+05	1.46E+05
.10	9.20E+04	7.73E+04	1.07E+05	7.78E+04	1.06E+05	-1.43E+05	1.44E+05
.20	9.23E+04	6.41E+04	1.21E+05	6.49E+04	1.20E+05	-1.37E+05	1.40E+05
.40	9.33E+04	4.14E+04	1.48E+05	4.28E+04	1.47E+05	-1.26E+05	1.33E+05
.80	1.00E+05	7.81E+03	2.09E+05	9.39E+03	2.06E+05	-1.13E+05	1.33E+05

Table L–283. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.20E+04	8.51E+04	9.91E+04	8.53E+04	9.88E+04	-1.35E+05	1.36E+05
.10	9.21E+04	7.83E+04	1.06E+05	7.87E+04	1.06E+05	-1.34E+05	1.36E+05
.20	9.25E+04	6.52E+04	1.21E+05	6.60E+04	1.20E+05	-1.32E+05	1.37E+05
.40	9.42E+04	4.21E+04	1.51E+05	4.35E+04	1.49E+05	-1.27E+05	1.37E+05
.80	1.01E+05	8.79E+03	2.09E+05	1.03E+04	2.06E+05	-1.13E+05	1.32E+05

Table L–284. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.18E+04	8.48E+04	9.88E+04	8.49E+04	9.87E+04	-1.38E+05	1.38E+05
.10	9.18E+04	7.78E+04	1.06E+05	7.80E+04	1.06E+05	-1.38E+05	1.38E+05
.20	9.18E+04	6.38E+04	1.20E+05	6.41E+04	1.19E+05	-1.38E+05	1.38E+05
.40	9.18E+04	3.59E+04	1.48E+05	3.65E+04	1.47E+05	-1.38E+05	1.38E+05
.80	9.18E+04	-2.01E+04	2.04E+05	-1.88E+04	2.02E+05	-1.38E+05	1.38E+05

Table L–285. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.18E+04	8.48E+04	9.88E+04	8.49E+04	9.88E+04	-1.38E+05	1.39E+05
.10	9.19E+04	7.81E+04	1.06E+05	7.82E+04	1.06E+05	-1.37E+05	1.39E+05
.20	9.23E+04	6.50E+04	1.21E+05	6.53E+04	1.20E+05	-1.35E+05	1.40E+05
.40	9.39E+04	4.20E+04	1.51E+05	4.25E+04	1.50E+05	-1.29E+05	1.40E+05
.80	1.00E+05	8.73E+03	2.08E+05	9.26E+03	2.07E+05	-1.14E+05	1.34E+05

Table L–286. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle F_z^{\text{hst}} \rangle$	Unfiltered F_z^{hst}		Filtered F_z^{hst}		Filtered $\left(F_z^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	9.18E+04	8.48E+04	9.88E+04	8.49E+04	9.88E+04	-1.38E+05	1.39E+05
.10	9.19E+04	7.81E+04	1.06E+05	7.82E+04	1.06E+05	-1.37E+05	1.39E+05
.20	9.23E+04	6.50E+04	1.21E+05	6.53E+04	1.20E+05	-1.35E+05	1.40E+05
.40	9.39E+04	4.20E+04	1.51E+05	4.25E+04	1.50E+05	-1.29E+05	1.40E+05
.80	1.00E+05	8.73E+03	2.08E+05	9.26E+03	2.07E+05	-1.14E+05	1.34E+05

Table L–287. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NFA							
(z_a/T)	$\langle F_z^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_z^{hst} Min. (kN)	Unfiltered F_z^{hst} Max. (kN)	Filtered F_z^{hst} Min. (kN)	Filtered F_z^{hst} Max. (kN)	Filtered $\left(F_z^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_z^{\text{hst}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–288. Minimum and Maximum of Variables F_z^{hst} and $\left(F_z^{\text{hst}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NSHIPMO							
(z_a/T)	$\langle F_z^{\text{hst}} \rangle$ Mean (kN)	Unfiltered F_z^{hst} Min. (kN)	Unfiltered F_z^{hst} Max. (kN)	Filtered F_z^{hst} Min. (kN)	Filtered F_z^{hst} Max. (kN)	Filtered $\left(F_z^{\text{hst}}\right)^*$ Min. (kN)	Filtered $\left(F_z^{\text{hst}}\right)^*$ Max. (kN)
.05	9.20E+04	8.51E+04	9.89E+04	8.52E+04	9.89E+04	-1.36E+05	1.38E+05
.10	9.21E+04	7.84E+04	1.06E+05	7.86E+04	1.06E+05	-1.35E+05	1.38E+05
.20	9.25E+04	6.55E+04	1.20E+05	6.57E+04	1.20E+05	-1.34E+05	1.38E+05
.40	9.41E+04	4.23E+04	1.50E+05	4.28E+04	1.50E+05	-1.28E+05	1.39E+05
.80	1.01E+05	8.99E+03	2.14E+05	9.21E+03	2.13E+05	-1.15E+05	1.40E+05

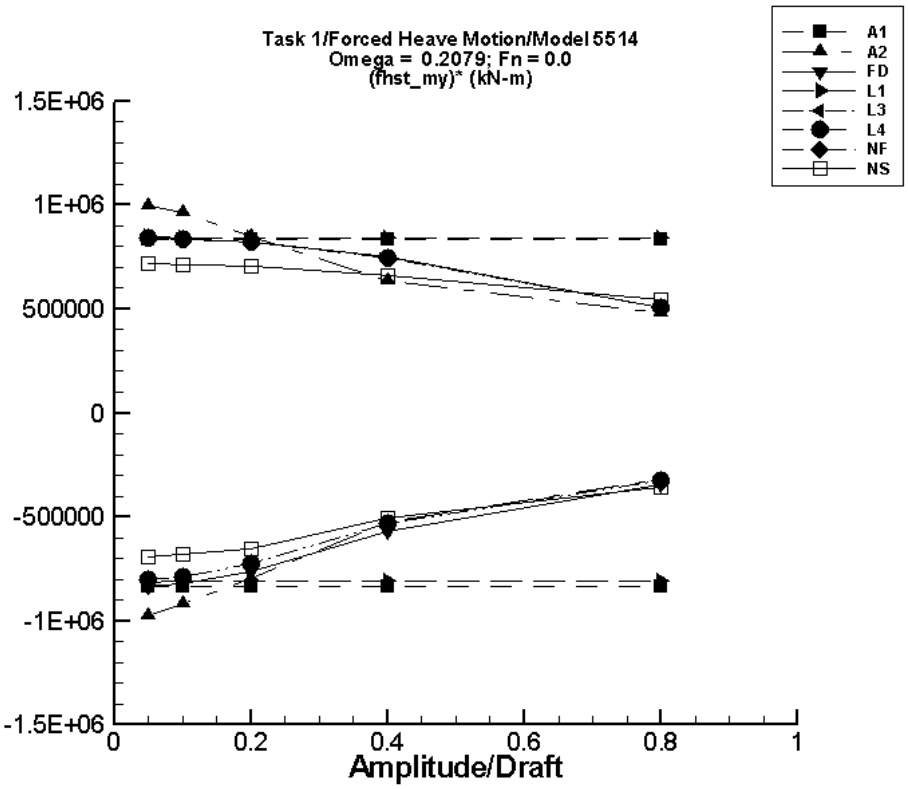

Figure L–37. Minimum and maximum of filtered $\left(M_y^{\text{hst}} - \langle M_y^{\text{hst}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–289. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	3.13E-02	-4.18E+04	4.18E+04	-4.18E+04	4.17E+04	-8.35E+05	8.34E+05
.10	7.36E-02	-8.34E+04	8.34E+04	-8.34E+04	8.33E+04	-8.34E+05	8.33E+05
.20	0.144	-1.67E+05	1.67E+05	-1.67E+05	1.67E+05	-8.34E+05	8.33E+05
.40	0.282	-3.34E+05	3.34E+05	-3.34E+05	3.33E+05	-8.34E+05	8.33E+05
.80	0.603	-6.67E+05	6.67E+05	-6.67E+05	6.67E+05	-8.34E+05	8.33E+05

Table L–290. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	1.25E+03	-4.74E+04	5.12E+04	-4.74E+04	5.11E+04	-9.74E+05	9.98E+05
.10	2.83E+03	-8.93E+04	9.90E+04	-8.92E+04	9.89E+04	-9.20E+05	9.60E+05
.20	6.99E+03	-1.52E+05	1.77E+05	-1.52E+05	1.77E+05	-7.96E+05	8.49E+05
.40	2.03E+04	-1.88E+05	2.74E+05	-1.88E+05	2.74E+05	-5.22E+05	6.34E+05
.80	6.39E+04	-3.35E+05	4.63E+05	-1.89E+05	4.48E+05	-3.16E+05	4.80E+05

Table L–291. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	1.70E+04	-2.46E+04	5.90E+04	-2.46E+04	5.90E+04	-8.33E+05	8.39E+05
.10	1.76E+04	-6.46E+04	1.01E+05	-6.45E+04	1.01E+05	-8.21E+05	8.36E+05
.20	2.11E+04	-1.31E+05	1.85E+05	-1.31E+05	1.85E+05	-7.60E+05	8.20E+05
.40	4.64E+04	-1.80E+05	3.46E+05	-1.80E+05	3.46E+05	-5.67E+05	7.48E+05
.80	9.60E+04	-1.82E+05	5.09E+05	-1.81E+05	5.02E+05	-3.46E+05	5.08E+05

Table L–292. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-0.102	-4.14E+04	4.14E+04	-4.14E+04	4.14E+04	-8.28E+05	8.28E+05
.10	-0.315	-8.27E+04	8.27E+04	-8.27E+04	8.27E+04	-8.27E+05	8.27E+05
.20	-0.602	-1.65E+05	1.65E+05	-1.65E+05	1.65E+05	-8.27E+05	8.27E+05
.40	-1.26	-3.31E+05	3.31E+05	-3.31E+05	3.31E+05	-8.27E+05	8.27E+05
.80	-2.49	-6.62E+05	6.62E+05	-6.62E+05	6.62E+05	-8.27E+05	8.27E+05

Table L–293. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	937.	-3.99E+04	4.21E+04	-3.99E+04	4.21E+04	-8.17E+05	8.23E+05
.10	1.49E+03	-7.89E+04	8.35E+04	-7.89E+04	8.35E+04	-8.04E+05	8.20E+05
.20	5.15E+03	-1.43E+05	1.66E+05	-1.43E+05	1.66E+05	-7.40E+05	8.03E+05
.40	3.09E+04	-1.88E+05	3.23E+05	-1.88E+05	3.23E+05	-5.46E+05	7.29E+05
.80	8.23E+04	-1.88E+05	4.81E+05	-1.88E+05	4.78E+05	-3.38E+05	4.95E+05

Table L–294. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	937.	-3.99E+04	4.21E+04	-3.99E+04	4.21E+04	-8.17E+05	8.23E+05
.10	1.49E+03	-7.89E+04	8.35E+04	-7.89E+04	8.35E+04	-8.04E+05	8.20E+05
.20	5.15E+03	-1.43E+05	1.66E+05	-1.43E+05	1.66E+05	-7.40E+05	8.03E+05
.40	3.09E+04	-1.88E+05	3.23E+05	-1.88E+05	3.23E+05	-5.46E+05	7.29E+05
.80	8.23E+04	-1.88E+05	4.81E+05	-1.88E+05	4.78E+05	-3.38E+05	4.95E+05

Table L–295. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NFA							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–296. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	434.	-3.46E+04	3.66E+04	-3.42E+04	3.62E+04	-6.93E+05	7.15E+05
.10	1.79E+03	-6.69E+04	7.38E+04	-6.63E+04	7.31E+04	-6.81E+05	7.13E+05
.20	6.18E+03	-1.25E+05	1.49E+05	-1.24E+05	1.48E+05	-6.51E+05	7.08E+05
.40	2.98E+04	-1.72E+05	2.97E+05	-1.72E+05	2.94E+05	-5.04E+05	6.61E+05
.80	1.15E+05	-1.73E+05	5.53E+05	-1.70E+05	5.51E+05	-3.55E+05	5.46E+05

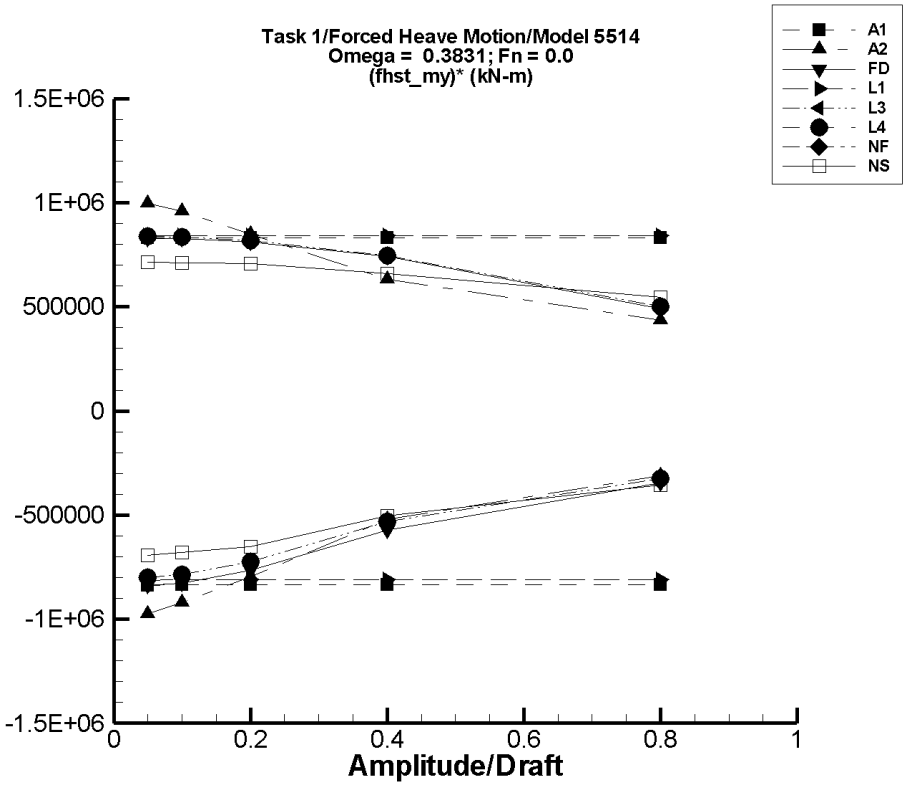

Figure L–38. Minimum and maximum of filtered $\left(M_y^{\text{hst}} - \langle M_y^{\text{hst}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–297. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-3.96E-04	-4.18E+04	4.18E+04	-4.19E+04	4.16E+04	-8.38E+05	8.32E+05
.10	-7.90E-03	-8.34E+04	8.34E+04	-8.36E+04	8.31E+04	-8.36E+05	8.31E+05
.20	-1.68E-02	-1.67E+05	1.67E+05	-1.67E+05	1.66E+05	-8.36E+05	8.31E+05
.40	-4.90E-02	-3.34E+05	3.34E+05	-3.35E+05	3.32E+05	-8.36E+05	8.31E+05
.80	-3.54E-02	-6.67E+05	6.67E+05	-6.69E+05	6.65E+05	-8.36E+05	8.31E+05

Table L–298. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	1.25E+03	-4.74E+04	5.12E+04	-4.75E+04	5.10E+04	-9.75E+05	9.95E+05
.10	2.83E+03	-8.93E+04	9.90E+04	-8.94E+04	9.86E+04	-9.22E+05	9.58E+05
.20	6.94E+03	-1.54E+05	1.77E+05	-1.53E+05	1.77E+05	-7.98E+05	8.48E+05
.40	2.04E+04	-1.88E+05	2.74E+05	-1.89E+05	2.73E+05	-5.23E+05	6.32E+05
.80	6.13E+04	-3.34E+05	4.64E+05	-1.87E+05	4.09E+05	-3.11E+05	4.34E+05

Table L–299. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	1.70E+04	-2.46E+04	5.90E+04	-2.45E+04	5.89E+04	-8.31E+05	8.36E+05
.10	1.76E+04	-6.46E+04	1.01E+05	-6.43E+04	1.01E+05	-8.19E+05	8.34E+05
.20	2.10E+04	-1.31E+05	1.85E+05	-1.31E+05	1.85E+05	-7.59E+05	8.18E+05
.40	4.62E+04	-1.80E+05	3.46E+05	-1.80E+05	3.45E+05	-5.66E+05	7.46E+05
.80	9.60E+04	-1.82E+05	5.09E+05	-1.80E+05	4.92E+05	-3.44E+05	4.95E+05

Table L–300. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-0.148	-4.14E+04	4.14E+04	-4.14E+04	4.14E+04	-8.27E+05	8.27E+05
.10	-0.282	-8.27E+04	8.27E+04	-8.26E+04	8.26E+04	-8.26E+05	8.26E+05
.20	-0.569	-1.65E+05	1.65E+05	-1.65E+05	1.65E+05	-8.26E+05	8.26E+05
.40	-1.09	-3.31E+05	3.31E+05	-3.30E+05	3.30E+05	-8.26E+05	8.26E+05
.80	-2.27	-6.62E+05	6.62E+05	-6.61E+05	6.61E+05	-8.26E+05	8.26E+05

Table L–301. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	937.	-3.99E+04	4.21E+04	-3.99E+04	4.21E+04	-8.16E+05	8.23E+05
.10	1.49E+03	-7.89E+04	8.35E+04	-7.88E+04	8.34E+04	-8.03E+05	8.19E+05
.20	5.14E+03	-1.43E+05	1.66E+05	-1.43E+05	1.66E+05	-7.40E+05	8.03E+05
.40	3.06E+04	-1.88E+05	3.23E+05	-1.88E+05	3.22E+05	-5.45E+05	7.29E+05
.80	7.99E+04	-1.88E+05	4.81E+05	-1.87E+05	4.73E+05	-3.34E+05	4.92E+05

Table L–302. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	937.	-3.99E+04	4.21E+04	-3.99E+04	4.21E+04	-8.16E+05	8.23E+05
.10	1.49E+03	-7.89E+04	8.35E+04	-7.88E+04	8.34E+04	-8.03E+05	8.19E+05
.20	5.14E+03	-1.43E+05	1.66E+05	-1.43E+05	1.66E+05	-7.40E+05	8.03E+05
.40	3.06E+04	-1.88E+05	3.23E+05	-1.88E+05	3.22E+05	-5.45E+05	7.29E+05
.80	7.99E+04	-1.88E+05	4.81E+05	-1.87E+05	4.73E+05	-3.34E+05	4.92E+05

Table L–303. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NFA							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–304. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	431.	-3.46E+04	3.66E+04	-3.42E+04	3.62E+04	-6.93E+05	7.15E+05
.10	1.79E+03	-6.69E+04	7.38E+04	-6.63E+04	7.31E+04	-6.81E+05	7.13E+05
.20	6.18E+03	-1.25E+05	1.49E+05	-1.24E+05	1.48E+05	-6.51E+05	7.07E+05
.40	2.98E+04	-1.72E+05	2.97E+05	-1.72E+05	2.94E+05	-5.04E+05	6.60E+05
.80	1.15E+05	-1.73E+05	5.53E+05	-1.70E+05	5.51E+05	-3.55E+05	5.46E+05

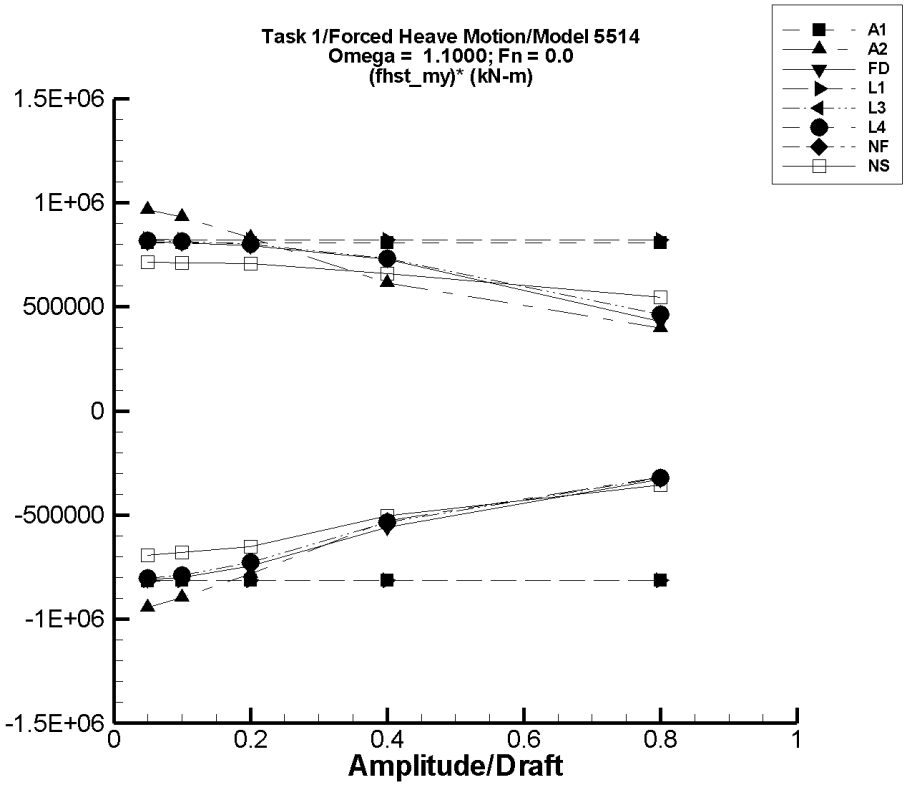

Figure L–39. Minimum and maximum of filtered $\left(M_y^{\text{hst}} - \langle M_y^{\text{hst}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–305. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	4.45E-02	-4.18E+04	4.17E+04	-4.08E+04	4.05E+04	-8.15E+05	8.09E+05
.10	8.39E-02	-8.34E+04	8.33E+04	-8.14E+04	8.08E+04	-8.14E+05	8.08E+05
.20	0.173	-1.67E+05	1.67E+05	-1.63E+05	1.62E+05	-8.14E+05	8.08E+05
.40	0.347	-3.34E+05	3.33E+05	-3.26E+05	3.23E+05	-8.14E+05	8.08E+05
.80	0.665	-6.67E+05	6.67E+05	-6.51E+05	6.46E+05	-8.14E+05	8.08E+05

Table L–306. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	1.24E+03	-4.74E+04	5.11E+04	-4.60E+04	4.96E+04	-9.45E+05	9.67E+05
.10	2.82E+03	-8.93E+04	9.89E+04	-8.67E+04	9.61E+04	-8.95E+05	9.33E+05
.20	6.95E+03	-1.52E+05	1.77E+05	-1.49E+05	1.73E+05	-7.81E+05	8.31E+05
.40	2.02E+04	-1.88E+05	2.74E+05	-1.90E+05	2.66E+05	-5.26E+05	6.15E+05
.80	7.56E+04	-1.89E+05	4.60E+05	-1.78E+05	3.95E+05	-3.17E+05	3.99E+05

Table L–307. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	1.70E+04	-2.46E+04	5.90E+04	-2.33E+04	5.77E+04	-8.08E+05	8.13E+05
.10	1.76E+04	-6.46E+04	1.01E+05	-6.21E+04	9.86E+04	-7.97E+05	8.10E+05
.20	2.10E+04	-1.31E+05	1.85E+05	-1.28E+05	1.80E+05	-7.45E+05	7.94E+05
.40	4.63E+04	-1.80E+05	3.46E+05	-1.79E+05	3.36E+05	-5.64E+05	7.25E+05
.80	9.38E+04	-1.82E+05	5.04E+05	-1.71E+05	4.33E+05	-3.31E+05	4.24E+05

Table L–308. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-3.67E-02	-4.14E+04	4.14E+04	-4.09E+04	4.10E+04	-8.19E+05	8.19E+05
.10	-0.111	-8.27E+04	8.27E+04	-8.18E+04	8.18E+04	-8.18E+05	8.18E+05
.20	-0.240	-1.65E+05	1.65E+05	-1.64E+05	1.64E+05	-8.18E+05	8.18E+05
.40	-0.473	-3.31E+05	3.31E+05	-3.27E+05	3.27E+05	-8.18E+05	8.18E+05
.80	-0.835	-6.62E+05	6.62E+05	-6.54E+05	6.54E+05	-8.18E+05	8.18E+05

Table L–309. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	937.	-3.99E+04	4.21E+04	-3.95E+04	4.17E+04	-8.08E+05	8.14E+05
.10	1.49E+03	-7.89E+04	8.35E+04	-7.80E+04	8.26E+04	-7.95E+05	8.11E+05
.20	5.13E+03	-1.43E+05	1.66E+05	-1.42E+05	1.64E+05	-7.35E+05	7.94E+05
.40	3.05E+04	-1.88E+05	3.23E+05	-1.87E+05	3.19E+05	-5.45E+05	7.22E+05
.80	7.86E+04	-1.88E+05	4.81E+05	-1.84E+05	4.44E+05	-3.28E+05	4.56E+05

Table L–310. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	937.	-3.99E+04	4.21E+04	-3.95E+04	4.17E+04	-8.08E+05	8.14E+05
.10	1.49E+03	-7.89E+04	8.35E+04	-7.80E+04	8.26E+04	-7.95E+05	8.11E+05
.20	5.13E+03	-1.43E+05	1.66E+05	-1.42E+05	1.64E+05	-7.35E+05	7.94E+05
.40	3.05E+04	-1.88E+05	3.23E+05	-1.87E+05	3.19E+05	-5.45E+05	7.22E+05
.80	7.86E+04	-1.88E+05	4.81E+05	-1.84E+05	4.44E+05	-3.28E+05	4.56E+05

Table L–311. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NFA							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–312. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	431.	-3.46E+04	3.66E+04	-3.42E+04	3.62E+04	-6.93E+05	7.15E+05
.10	1.79E+03	-6.69E+04	7.38E+04	-6.63E+04	7.31E+04	-6.81E+05	7.13E+05
.20	6.18E+03	-1.25E+05	1.49E+05	-1.24E+05	1.48E+05	-6.51E+05	7.07E+05
.40	2.98E+04	-1.72E+05	2.97E+05	-1.72E+05	2.94E+05	-5.04E+05	6.60E+05
.80	1.15E+05	-1.73E+05	5.53E+05	-1.70E+05	5.51E+05	-3.55E+05	5.46E+05

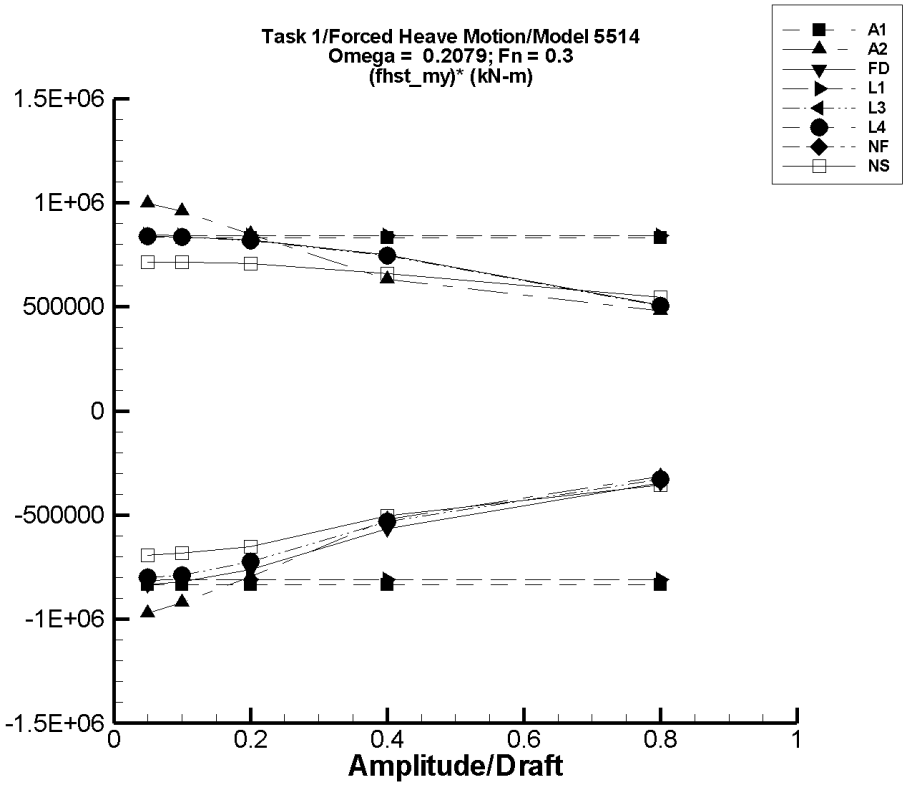

Figure L–40. Minimum and maximum of filtered $\left(M_y^{\text{hst}} - \langle M_y^{\text{hst}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–313. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	3.13E-02	-4.18E+04	4.18E+04	-4.18E+04	4.17E+04	-8.35E+05	8.34E+05
.10	7.36E-02	-8.34E+04	8.34E+04	-8.34E+04	8.33E+04	-8.34E+05	8.33E+05
.20	0.144	-1.67E+05	1.67E+05	-1.67E+05	1.67E+05	-8.34E+05	8.33E+05
.40	0.282	-3.34E+05	3.34E+05	-3.34E+05	3.33E+05	-8.34E+05	8.33E+05
.80	0.603	-6.67E+05	6.67E+05	-6.67E+05	6.67E+05	-8.34E+05	8.33E+05

Table L–314. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	1.25E+03	-4.74E+04	5.12E+04	-4.74E+04	5.11E+04	-9.73E+05	9.98E+05
.10	2.83E+03	-8.93E+04	9.90E+04	-8.92E+04	9.89E+04	-9.20E+05	9.60E+05
.20	6.99E+03	-1.52E+05	1.77E+05	-1.52E+05	1.77E+05	-7.96E+05	8.49E+05
.40	2.03E+04	-1.88E+05	2.74E+05	-1.88E+05	2.74E+05	-5.22E+05	6.34E+05
.80	6.39E+04	-3.35E+05	4.63E+05	-1.89E+05	4.48E+05	-3.16E+05	4.80E+05

Table L–315. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	1.70E+04	-2.46E+04	5.90E+04	-2.46E+04	5.90E+04	-8.33E+05	8.39E+05
.10	1.76E+04	-6.46E+04	1.01E+05	-6.45E+04	1.01E+05	-8.21E+05	8.36E+05
.20	2.11E+04	-1.31E+05	1.85E+05	-1.31E+05	1.85E+05	-7.60E+05	8.20E+05
.40	4.64E+04	-1.80E+05	3.46E+05	-1.80E+05	3.46E+05	-5.67E+05	7.48E+05
.80	9.60E+04	-1.82E+05	5.09E+05	-1.81E+05	5.02E+05	-3.46E+05	5.08E+05

Table L–316. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-0.102	-4.14E+04	4.14E+04	-4.14E+04	4.14E+04	-8.28E+05	8.28E+05
.10	-0.315	-8.27E+04	8.27E+04	-8.27E+04	8.27E+04	-8.27E+05	8.27E+05
.20	-0.602	-1.65E+05	1.65E+05	-1.65E+05	1.65E+05	-8.27E+05	8.27E+05
.40	-1.26	-3.31E+05	3.31E+05	-3.31E+05	3.31E+05	-8.27E+05	8.27E+05
.80	-2.49	-6.62E+05	6.62E+05	-6.62E+05	6.62E+05	-8.27E+05	8.27E+05

Table L–317. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	938.	-3.99E+04	4.21E+04	-3.99E+04	4.21E+04	-8.17E+05	8.23E+05
.10	1.49E+03	-7.89E+04	8.35E+04	-7.89E+04	8.35E+04	-8.04E+05	8.20E+05
.20	5.16E+03	-1.43E+05	1.66E+05	-1.43E+05	1.66E+05	-7.40E+05	8.03E+05
.40	3.09E+04	-1.88E+05	3.23E+05	-1.88E+05	3.23E+05	-5.46E+05	7.29E+05
.80	8.23E+04	-1.88E+05	4.81E+05	-1.88E+05	4.78E+05	-3.38E+05	4.95E+05

Table L–318. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	938.	-3.99E+04	4.21E+04	-3.99E+04	4.21E+04	-8.17E+05	8.23E+05
.10	1.49E+03	-7.89E+04	8.35E+04	-7.89E+04	8.35E+04	-8.04E+05	8.20E+05
.20	5.16E+03	-1.43E+05	1.66E+05	-1.43E+05	1.66E+05	-7.40E+05	8.03E+05
.40	3.09E+04	-1.88E+05	3.23E+05	-1.88E+05	3.23E+05	-5.46E+05	7.29E+05
.80	8.23E+04	-1.88E+05	4.81E+05	-1.88E+05	4.78E+05	-3.38E+05	4.95E+05

Table L–319. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NFA							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–320. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	434.	-3.46E+04	3.66E+04	-3.42E+04	3.62E+04	-6.93E+05	7.15E+05
.10	1.79E+03	-6.69E+04	7.38E+04	-6.63E+04	7.31E+04	-6.81E+05	7.13E+05
.20	6.18E+03	-1.25E+05	1.49E+05	-1.24E+05	1.48E+05	-6.51E+05	7.08E+05
.40	2.98E+04	-1.72E+05	2.97E+05	-1.72E+05	2.94E+05	-5.04E+05	6.61E+05
.80	1.15E+05	-1.73E+05	5.53E+05	-1.70E+05	5.51E+05	-3.55E+05	5.46E+05

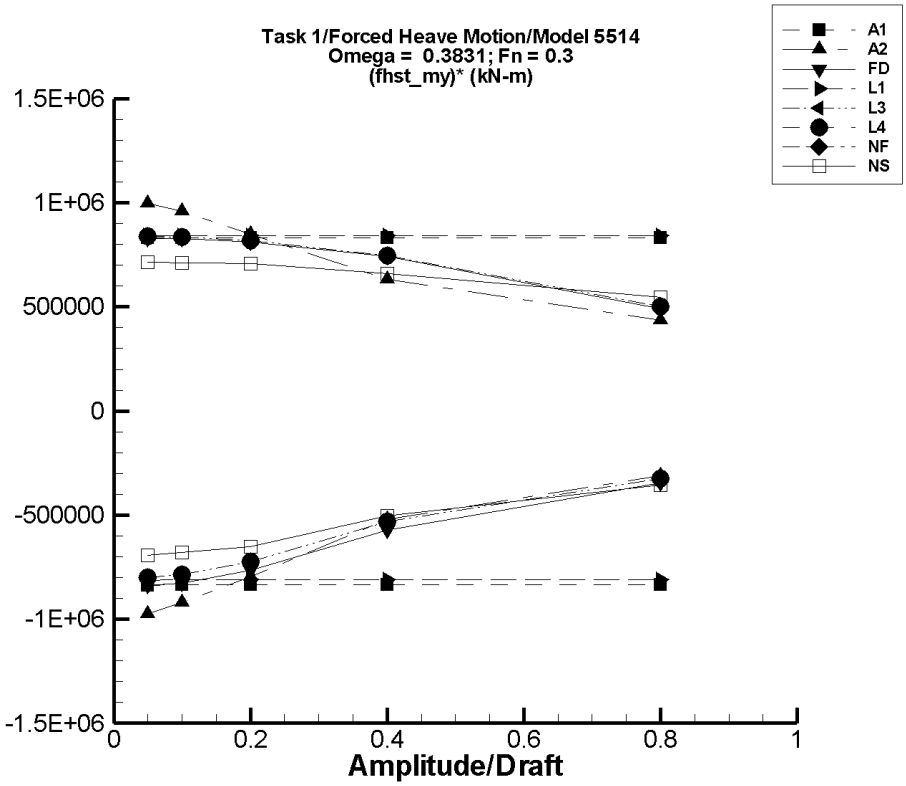

Figure L–41. Minimum and maximum of filtered $\left(M_y^{\text{hst}} - \langle M_y^{\text{hst}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–321. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-3.96E-04	-4.18E+04	4.18E+04	-4.19E+04	4.16E+04	-8.38E+05	8.32E+05
.10	-7.90E-03	-8.34E+04	8.34E+04	-8.36E+04	8.31E+04	-8.36E+05	8.31E+05
.20	-1.68E-02	-1.67E+05	1.67E+05	-1.67E+05	1.66E+05	-8.36E+05	8.31E+05
.40	-4.90E-02	-3.34E+05	3.34E+05	-3.35E+05	3.32E+05	-8.36E+05	8.31E+05
.80	-3.54E-02	-6.67E+05	6.67E+05	-6.69E+05	6.65E+05	-8.36E+05	8.31E+05

Table L–322. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	1.25E+03	-4.74E+04	5.12E+04	-4.75E+04	5.10E+04	-9.75E+05	9.95E+05
.10	2.83E+03	-8.93E+04	9.90E+04	-8.94E+04	9.86E+04	-9.22E+05	9.58E+05
.20	6.94E+03	-1.54E+05	1.77E+05	-1.53E+05	1.77E+05	-7.98E+05	8.48E+05
.40	2.04E+04	-1.88E+05	2.74E+05	-1.89E+05	2.73E+05	-5.23E+05	6.32E+05
.80	6.13E+04	-3.34E+05	4.64E+05	-1.87E+05	4.09E+05	-3.11E+05	4.34E+05

Table L–323. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	1.70E+04	-2.46E+04	5.90E+04	-2.45E+04	5.89E+04	-8.31E+05	8.36E+05
.10	1.76E+04	-6.46E+04	1.01E+05	-6.43E+04	1.01E+05	-8.19E+05	8.34E+05
.20	2.10E+04	-1.31E+05	1.85E+05	-1.31E+05	1.85E+05	-7.59E+05	8.18E+05
.40	4.62E+04	-1.80E+05	3.46E+05	-1.80E+05	3.45E+05	-5.66E+05	7.46E+05
.80	9.60E+04	-1.82E+05	5.09E+05	-1.80E+05	4.92E+05	-3.44E+05	4.95E+05

Table L–324. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-0.148	-4.14E+04	4.14E+04	-4.14E+04	4.14E+04	-8.27E+05	8.27E+05
.10	-0.282	-8.27E+04	8.27E+04	-8.26E+04	8.26E+04	-8.26E+05	8.26E+05
.20	-0.569	-1.65E+05	1.65E+05	-1.65E+05	1.65E+05	-8.26E+05	8.26E+05
.40	-1.09	-3.31E+05	3.31E+05	-3.30E+05	3.30E+05	-8.26E+05	8.26E+05
.80	-2.27	-6.62E+05	6.62E+05	-6.61E+05	6.61E+05	-8.26E+05	8.26E+05

Table L–325. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	938.	-3.99E+04	4.21E+04	-3.99E+04	4.21E+04	-8.16E+05	8.23E+05
.10	1.49E+03	-7.89E+04	8.35E+04	-7.88E+04	8.34E+04	-8.03E+05	8.19E+05
.20	5.14E+03	-1.43E+05	1.66E+05	-1.43E+05	1.66E+05	-7.40E+05	8.03E+05
.40	3.06E+04	-1.88E+05	3.23E+05	-1.88E+05	3.22E+05	-5.45E+05	7.29E+05
.80	7.99E+04	-1.88E+05	4.81E+05	-1.87E+05	4.73E+05	-3.34E+05	4.92E+05

Table L–326. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	938.	-3.99E+04	4.21E+04	-3.99E+04	4.21E+04	-8.16E+05	8.23E+05
.10	1.49E+03	-7.89E+04	8.35E+04	-7.88E+04	8.34E+04	-8.03E+05	8.19E+05
.20	5.14E+03	-1.43E+05	1.66E+05	-1.43E+05	1.66E+05	-7.40E+05	8.03E+05
.40	3.06E+04	-1.88E+05	3.23E+05	-1.88E+05	3.22E+05	-5.45E+05	7.29E+05
.80	7.99E+04	-1.88E+05	4.81E+05	-1.87E+05	4.73E+05	-3.34E+05	4.92E+05

Table L–327. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NFA							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–328. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	431.	-3.46E+04	3.66E+04	-3.42E+04	3.62E+04	-6.93E+05	7.15E+05
.10	1.79E+03	-6.69E+04	7.38E+04	-6.63E+04	7.31E+04	-6.81E+05	7.13E+05
.20	6.18E+03	-1.25E+05	1.49E+05	-1.24E+05	1.48E+05	-6.51E+05	7.07E+05
.40	2.98E+04	-1.72E+05	2.97E+05	-1.72E+05	2.94E+05	-5.04E+05	6.60E+05
.80	1.15E+05	-1.73E+05	5.53E+05	-1.70E+05	5.51E+05	-3.55E+05	5.46E+05

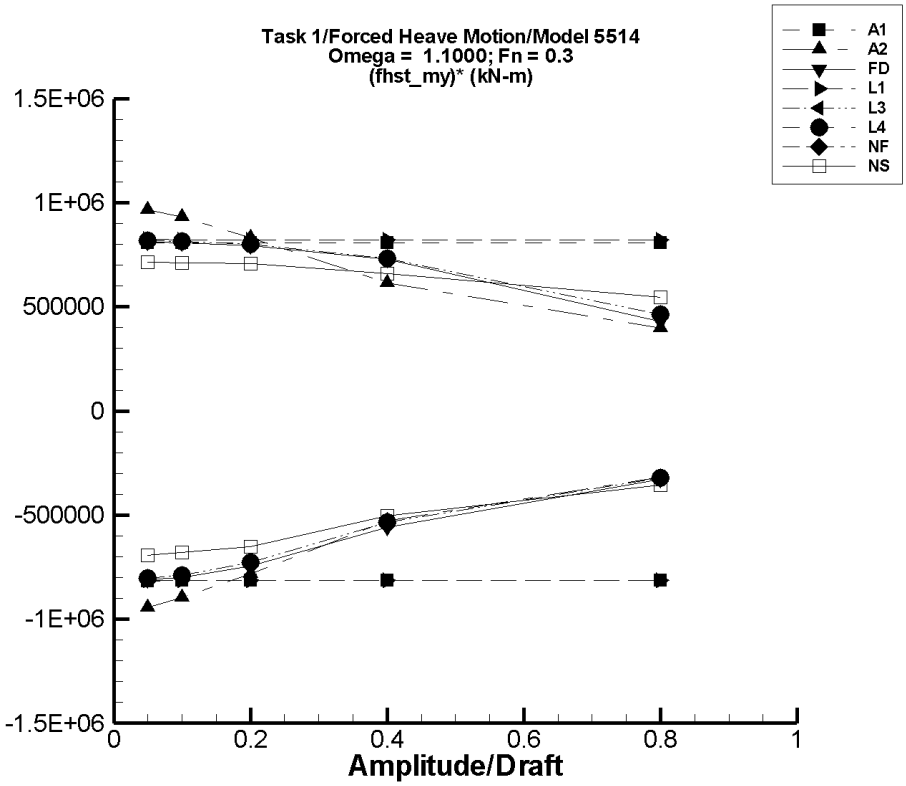

Figure L–42. Minimum and maximum of filtered $\left(M_y^{\text{hst}} - \langle M_y^{\text{hst}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–329. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	4.45E-02	-4.18E+04	4.17E+04	-4.08E+04	4.05E+04	-8.15E+05	8.09E+05
.10	8.39E-02	-8.34E+04	8.33E+04	-8.14E+04	8.08E+04	-8.14E+05	8.08E+05
.20	0.173	-1.67E+05	1.67E+05	-1.63E+05	1.62E+05	-8.14E+05	8.08E+05
.40	0.347	-3.34E+05	3.33E+05	-3.26E+05	3.23E+05	-8.14E+05	8.08E+05
.80	0.665	-6.67E+05	6.67E+05	-6.51E+05	6.46E+05	-8.14E+05	8.08E+05

Table L–330. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	1.24E+03	-4.74E+04	5.11E+04	-4.60E+04	4.96E+04	-9.45E+05	9.67E+05
.10	2.82E+03	-8.93E+04	9.89E+04	-8.67E+04	9.61E+04	-8.95E+05	9.33E+05
.20	6.95E+03	-1.52E+05	1.77E+05	-1.49E+05	1.73E+05	-7.81E+05	8.31E+05
.40	2.02E+04	-1.88E+05	2.74E+05	-1.90E+05	2.66E+05	-5.26E+05	6.15E+05
.80	7.56E+04	-1.89E+05	4.60E+05	-1.78E+05	3.95E+05	-3.17E+05	3.99E+05

Table L–331. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	1.70E+04	-2.46E+04	5.90E+04	-2.33E+04	5.77E+04	-8.08E+05	8.13E+05
.10	1.76E+04	-6.46E+04	1.01E+05	-6.21E+04	9.86E+04	-7.97E+05	8.10E+05
.20	2.10E+04	-1.31E+05	1.85E+05	-1.28E+05	1.80E+05	-7.45E+05	7.94E+05
.40	4.63E+04	-1.80E+05	3.46E+05	-1.79E+05	3.36E+05	-5.64E+05	7.25E+05
.80	9.38E+04	-1.82E+05	5.04E+05	-1.71E+05	4.33E+05	-3.31E+05	4.24E+05

Table L–332. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle M_y^{\text{hst}} \rangle$	**Unfiltered** M_y^{hst}		**Filtered** M_y^{hst}		**Filtered** $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	-3.67E-02	-4.14E+04	4.14E+04	-4.09E+04	4.10E+04	-8.19E+05	8.19E+05
.10	-0.111	-8.27E+04	8.27E+04	-8.18E+04	8.18E+04	-8.18E+05	8.18E+05
.20	-0.240	-1.65E+05	1.65E+05	-1.64E+05	1.64E+05	-8.18E+05	8.18E+05
.40	-0.473	-3.31E+05	3.31E+05	-3.27E+05	3.27E+05	-8.18E+05	8.18E+05
.80	-0.835	-6.62E+05	6.62E+05	-6.54E+05	6.54E+05	-8.18E+05	8.18E+05

Table L–333. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	937.	-3.99E+04	4.21E+04	-3.95E+04	4.17E+04	-8.08E+05	8.14E+05
.10	1.49E+03	-7.89E+04	8.35E+04	-7.80E+04	8.26E+04	-7.95E+05	8.11E+05
.20	5.13E+03	-1.43E+05	1.66E+05	-1.42E+05	1.64E+05	-7.35E+05	7.94E+05
.40	3.05E+04	-1.88E+05	3.23E+05	-1.87E+05	3.19E+05	-5.45E+05	7.22E+05
.80	7.86E+04	-1.88E+05	4.81E+05	-1.84E+05	4.44E+05	-3.28E+05	4.56E+05

Table L–334. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	937.	-3.99E+04	4.21E+04	-3.95E+04	4.17E+04	-8.08E+05	8.14E+05
.10	1.49E+03	-7.89E+04	8.35E+04	-7.80E+04	8.26E+04	-7.95E+05	8.11E+05
.20	5.13E+03	-1.43E+05	1.66E+05	-1.42E+05	1.64E+05	-7.35E+05	7.94E+05
.40	3.05E+04	-1.88E+05	3.23E+05	-1.87E+05	3.19E+05	-5.45E+05	7.22E+05
.80	7.86E+04	-1.88E+05	4.81E+05	-1.84E+05	4.44E+05	-3.28E+05	4.56E+05

Table L–335. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NFA							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–336. Minimum and Maximum of Variables M_y^{hst} and $\left(M_y^{\text{hst}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle M_y^{\text{hst}} \rangle$	Unfiltered M_y^{hst}		Filtered M_y^{hst}		Filtered $\left(M_y^{\text{hst}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	431.	-3.46E+04	3.66E+04	-3.42E+04	3.62E+04	-6.93E+05	7.15E+05
.10	1.79E+03	-6.69E+04	7.38E+04	-6.63E+04	7.31E+04	-6.81E+05	7.13E+05
.20	6.18E+03	-1.25E+05	1.49E+05	-1.24E+05	1.48E+05	-6.51E+05	7.07E+05
.40	2.98E+04	-1.72E+05	2.97E+05	-1.72E+05	2.94E+05	-5.04E+05	6.60E+05
.80	1.15E+05	-1.73E+05	5.53E+05	-1.70E+05	5.51E+05	-3.55E+05	5.46E+05

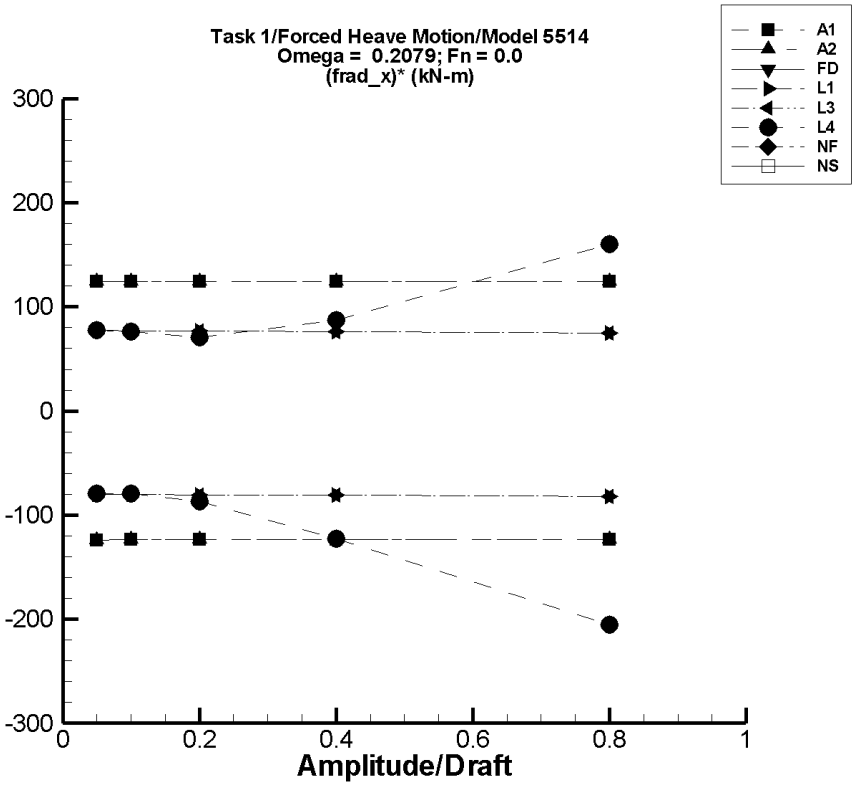

Figure L–43. Minimum and maximum of filtered $\left(F_x^{\text{rad}} - \langle F_x^{\text{rad}} \rangle\right) / (z_a/T)$ vs. (z_a/T) for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–337. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$(\boldsymbol{z_a/T})$	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	-2.91E-03	-6.74	6.73	-6.19	6.22	-124.	124.
.10	-5.80E-03	-13.5	13.4	-12.4	12.4	-124.	124.
.20	-1.16E-02	-26.9	26.9	-24.7	24.8	-124.	124.
.40	-2.32E-02	-53.9	53.8	-49.5	49.7	-124.	124.
.80	-4.64E-02	-108.	108.	-98.9	99.3	-124.	124.

Table L–338. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
$(\boldsymbol{z_a/T})$	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	-2.91E-03	-6.74	6.73	-6.19	6.22	-124.	124.
.10	-5.80E-03	-13.5	13.4	-12.4	12.4	-124.	124.
.20	-1.16E-02	-26.9	26.9	-24.7	24.8	-124.	124.
.40	-2.32E-02	-53.9	53.8	-49.5	49.7	-124.	124.
.80	-4.64E-02	-108.	108.	-98.9	99.3	-124.	124.

Table L–339. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

FREDYN							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–340. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-1							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN)
.05	7.53E-03	-3.93	3.95	-3.92	3.94	-78.6	78.7
.10	3.00E-02	-7.84	7.88	-7.83	7.88	-78.6	78.5
.20	0.120	-15.7	15.8	-15.7	15.8	-78.9	78.2
.40	0.480	-31.4	31.5	-31.3	31.5	-79.5	77.6
.80	1.92	-62.7	63.1	-62.7	63.0	-80.7	76.4

Table L–341. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-3							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN)
.05	7.53E-03	-3.93	3.95	-3.92	3.94	-78.6	78.7
.10	3.00E-02	-7.84	7.88	-7.83	7.88	-78.6	78.5
.20	0.120	-15.7	15.8	-15.7	15.8	-78.9	78.2
.40	0.480	-31.4	31.5	-31.3	31.5	-79.5	77.6
.80	1.92	-62.7	63.1	-62.7	63.0	-80.7	76.4

Table L–342. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-4							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN)
.05	8.04E-02	-3.80	4.02	-3.80	4.02	-77.6	78.7
.10	0.233	-7.55	8.05	-7.53	8.02	-77.7	77.8
.20	0.867	-16.7	32.4	-16.2	15.4	-85.4	72.6
.40	1.92	-46.7	63.2	-46.0	38.0	-120.	90.2
.80	1.95	-161.	148.	-158.	134.	-200.	165.

Table L–343. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NFA							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–344. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NSHIPMO							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

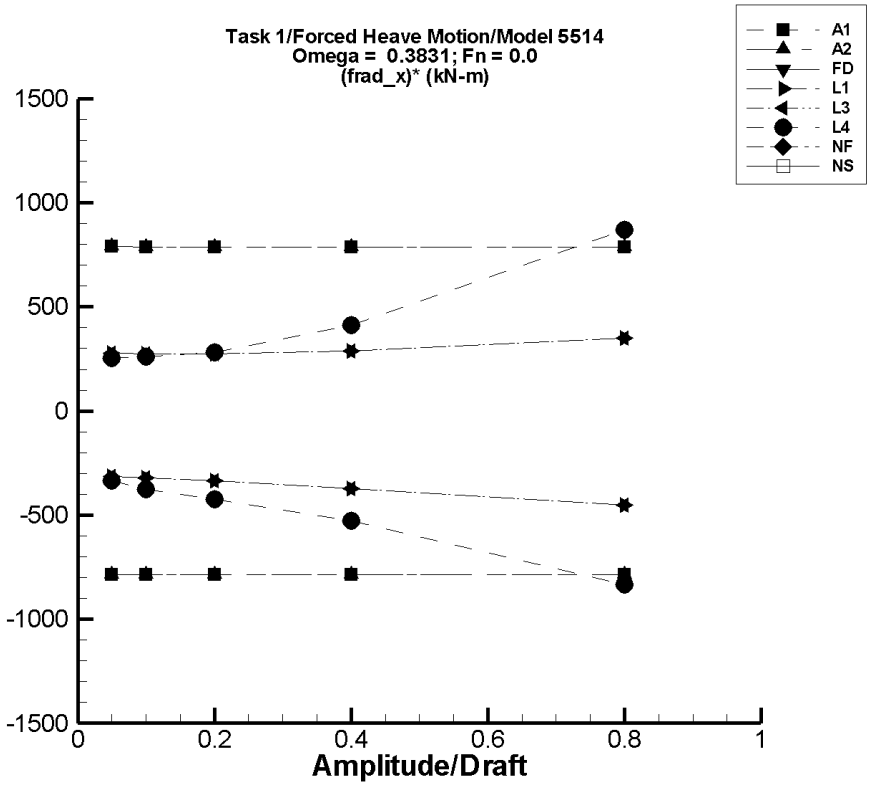

Figure L–44. Minimum and maximum of filtered $\left(F_x^{\text{rad}} - \langle F_x^{\text{rad}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–345. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-0.111	-39.5	39.6	-39.4	39.4	-786.	790.
.10	-0.222	-78.9	79.0	-78.7	78.7	-785.	789.
.20	-0.443	-158.	158.	-157.	157.	-785.	789.
.40	-0.886	-316.	316.	-315.	315.	-785.	789.
.80	-1.77	-631.	632.	-629.	629.	-785.	789.

Table L–346. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-0.111	-39.5	39.6	-39.4	39.4	-786.	790.
.10	-0.222	-78.9	79.0	-78.7	78.7	-785.	789.
.20	-0.443	-158.	158.	-157.	157.	-785.	789.
.40	-0.886	-316.	316.	-315.	315.	-785.	789.
.80	-1.77	-631.	632.	-629.	629.	-785.	789.

Table L–347. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

FREDYN							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–348. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-1							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN)
.05	-0.446	-15.5	14.1	-15.5	14.1	-300.	291.
.10	-1.75	-32.5	26.9	-32.5	26.9	-307.	286.
.20	-6.95	-71.9	50.1	-71.8	50.0	-324.	285.
.40	-27.7	-173.	91.7	-172.	91.4	-362.	298.
.80	-111.	-466.	177.	-465.	177.	-443.	359.

Table L–349. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-0.446	-15.5	14.1	-15.5	14.1	-300.	291.
.10	-1.75	-32.5	26.9	-32.5	26.9	-307.	286.
.20	-6.95	-71.9	50.1	-71.8	50.0	-324.	285.
.40	-27.7	-173.	91.7	-172.	91.4	-362.	298.
.80	-111.	-466.	177.	-465.	177.	-443.	359.

Table L–350. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	0.744	-15.8	14.0	-15.5	13.9	-324.	263.
.10	2.64	-36.7	31.5	-34.0	29.7	-367.	271.
.20	9.98	-80.1	82.5	-73.6	67.7	-418.	288.
.40	29.9	-217.	227.	-179.	197.	-523.	417.
.80	71.8	-667.	814.	-596.	769.	-835.	871.

Table L–351. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NFA							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–352. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NSHIPMO							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

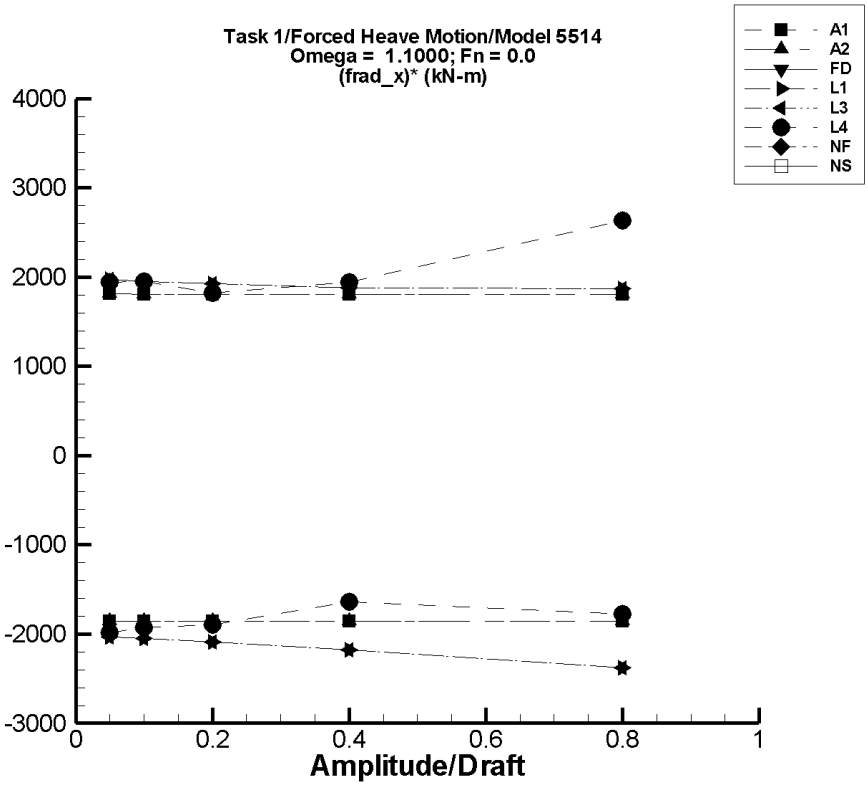

Figure L–45. Minimum and maximum of filtered $\left(F_x^{\text{rad}} - \langle F_x^{\text{rad}} \rangle\right) / (z_a/T)$ vs. (z_a/T) for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–353. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle \boldsymbol{F_x^{\text{rad}}} \rangle$	**Unfiltered** $\boldsymbol{F_x^{\text{rad}}}$		**Filtered** $\boldsymbol{F_x^{\text{rad}}}$		**Filtered** $\left(\boldsymbol{F_x^{\text{rad}}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	-1.40	-97.5	92.0	-94.4	89.2	-1.86E+03	1.81E+03
.10	-2.79	-195.	184.	-188.	178.	-1.86E+03	1.81E+03
.20	-5.58	-389.	367.	-377.	356.	-1.86E+03	1.81E+03
.40	-11.2	-779.	735.	-754.	713.	-1.86E+03	1.81E+03
.80	-22.3	-1.56E+03	1.47E+03	-1.51E+03	1.43E+03	-1.86E+03	1.81E+03

Table L–354. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle \boldsymbol{F_x^{\text{rad}}} \rangle$	**Unfiltered** $\boldsymbol{F_x^{\text{rad}}}$		**Filtered** $\boldsymbol{F_x^{\text{rad}}}$		**Filtered** $\left(\boldsymbol{F_x^{\text{rad}}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	-1.40	-97.5	92.0	-94.4	89.2	-1.86E+03	1.81E+03
.10	-2.79	-195.	184.	-188.	178.	-1.86E+03	1.81E+03
.20	-5.58	-389.	367.	-377.	356.	-1.86E+03	1.81E+03
.40	-11.2	-779.	735.	-754.	713.	-1.86E+03	1.81E+03
.80	-22.3	-1.56E+03	1.47E+03	-1.51E+03	1.43E+03	-1.86E+03	1.81E+03

Table L–355. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

FREDYN							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–356. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-1							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN)
.05	1.32	-101.	102.	-99.6	101.	-2.02E+03	1.99E+03
.10	5.05	-201.	204.	-198.	202.	-2.03E+03	1.97E+03
.20	19.8	-400.	412.	-394.	408.	-2.07E+03	1.94E+03
.40	78.2	-795.	849.	-783.	841.	-2.15E+03	1.91E+03
.80	311.	-1.59E+03	1.86E+03	-1.56E+03	1.84E+03	-2.34E+03	1.91E+03

Table L–357. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle \boldsymbol{F_x^{\text{rad}}} \rangle$	**Unfiltered** $\boldsymbol{F_x^{\text{rad}}}$		**Filtered** $\boldsymbol{F_x^{\text{rad}}}$		**Filtered** $\left(\boldsymbol{F_x^{\text{rad}}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	1.32	-101.	102.	-99.6	101.	-2.02E+03	1.99E+03
.10	5.05	-201.	204.	-198.	202.	-2.03E+03	1.97E+03
.20	19.8	-400.	412.	-394.	408.	-2.07E+03	1.94E+03
.40	78.2	-795.	849.	-783.	841.	-2.15E+03	1.91E+03
.80	311.	-1.59E+03	1.86E+03	-1.56E+03	1.84E+03	-2.34E+03	1.91E+03

Table L–358. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle \boldsymbol{F_x^{\text{rad}}} \rangle$	**Unfiltered** $\boldsymbol{F_x^{\text{rad}}}$		**Filtered** $\boldsymbol{F_x^{\text{rad}}}$		**Filtered** $\left(\boldsymbol{F_x^{\text{rad}}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	-5.52E-02	-101.	101.	-98.6	97.9	-1.97E+03	1.96E+03
.10	-0.913	-202.	200.	-192.	195.	-1.92E+03	1.96E+03
.20	7.11	-388.	417.	-368.	376.	-1.88E+03	1.84E+03
.40	29.5	-681.	1.02E+03	-614.	822.	-1.61E+03	1.98E+03
.80	-25.2	-1.53E+03	2.78E+03	-1.40E+03	2.12E+03	-1.72E+03	2.68E+03

Table L–359. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NFA							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–360. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NSHIPMO							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

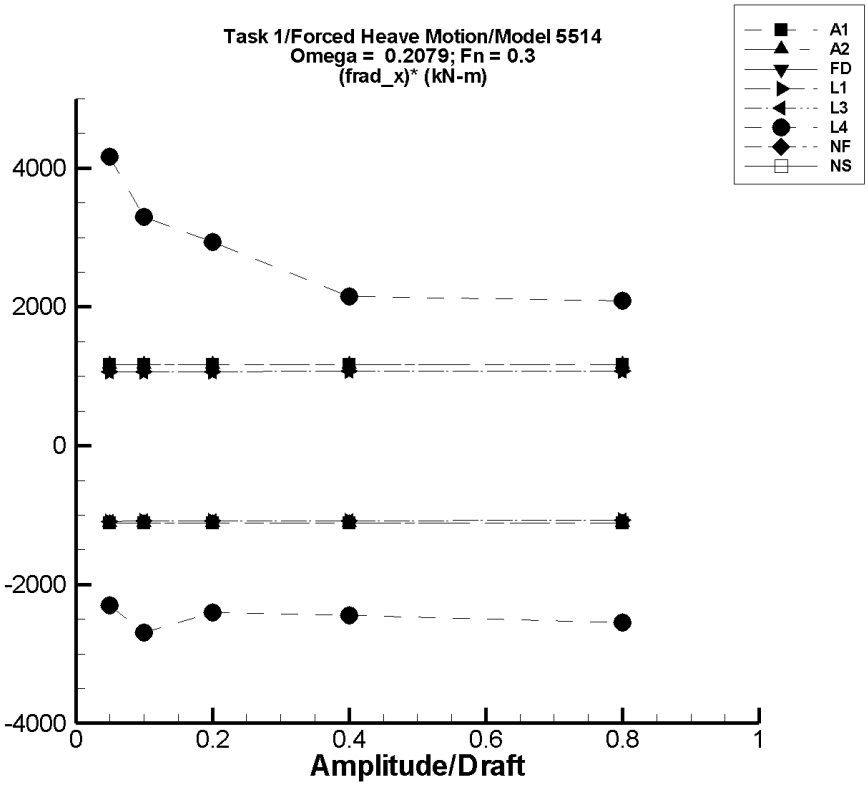

Figure L–46. Minimum and maximum of filtered $\left(F_x^{\text{rad}} - \langle F_x^{\text{rad}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–361. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-1							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN)
.05	-0.172	-56.1	58.5	-56.1	58.4	-1.12E+03	1.17E+03
.10	-0.344	-112.	117.	-112.	117.	-1.12E+03	1.17E+03
.20	-0.688	-224.	233.	-224.	233.	-1.12E+03	1.17E+03
.40	-1.38	-448.	467.	-448.	466.	-1.12E+03	1.17E+03
.80	-2.75	-897.	934.	-896.	933.	-1.12E+03	1.17E+03

Table L–362. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-2							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN)
.05	-0.172	-56.1	58.5	-56.1	58.4	-1.12E+03	1.17E+03
.10	-0.344	-112.	117.	-112.	117.	-1.12E+03	1.17E+03
.20	-0.688	-224.	233.	-224.	233.	-1.12E+03	1.17E+03
.40	-1.38	-448.	467.	-448.	466.	-1.12E+03	1.17E+03
.80	-2.75	-897.	934.	-896.	933.	-1.12E+03	1.17E+03

Table L–363. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

FREDYN							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Max. (kN)	Filtered F_x^{rad} Min. (kN)	Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–364. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-1							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Max. (kN)	Filtered F_x^{rad} Min. (kN)	Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Max. (kN)
.05	-332.	-386.	-278.	-386.	-278.	-1.08E+03	1.08E+03
.10	-332.	-439.	-224.	-439.	-224.	-1.07E+03	1.08E+03
.20	-330.	-545.	-114.	-545.	-115.	-1.07E+03	1.08E+03
.40	-326.	-754.	108.	-753.	107.	-1.07E+03	1.08E+03
.80	-308.	-1.16E+03	566.	-1.16E+03	566.	-1.06E+03	1.09E+03

Table L–365. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-3							
(z_a/T)	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$ **Mean (kN)**	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$ **Min. (kN)**	**Max. (kN)**	**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$ **Min. (kN)**	**Max. (kN)**	**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$ **Min. (kN)**	**Max. (kN)**
.05	-332.	-386.	-278.	-386.	-278.	-1.08E+03	1.08E+03
.10	-332.	-439.	-224.	-439.	-224.	-1.07E+03	1.08E+03
.20	-331.	-545.	-115.	-545.	-115.	-1.07E+03	1.08E+03
.40	-326.	-754.	108.	-754.	107.	-1.07E+03	1.08E+03
.80	-308.	-1.16E+03	566.	-1.16E+03	566.	-1.06E+03	1.09E+03

Table L–366. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-4							
(z_a/T)	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$ **Mean (kN)**	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$ **Min. (kN)**	**Max. (kN)**	**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$ **Min. (kN)**	**Max. (kN)**	**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$ **Min. (kN)**	**Max. (kN)**
.05	-323.	-450.	24.1	-437.	-114.	-2.28E+03	4.19E+03
.10	-315.	-586.	252.	-581.	18.6	-2.66E+03	3.34E+03
.20	-305.	-823.	555.	-778.	289.	-2.37E+03	2.97E+03
.40	-322.	-1.49E+03	827.	-1.28E+03	558.	-2.40E+03	2.20E+03
.80	-509.	-2.62E+03	1.36E+03	-2.50E+03	1.21E+03	-2.49E+03	2.14E+03

Table L–367. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NFA							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–368. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NSHIPMO							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

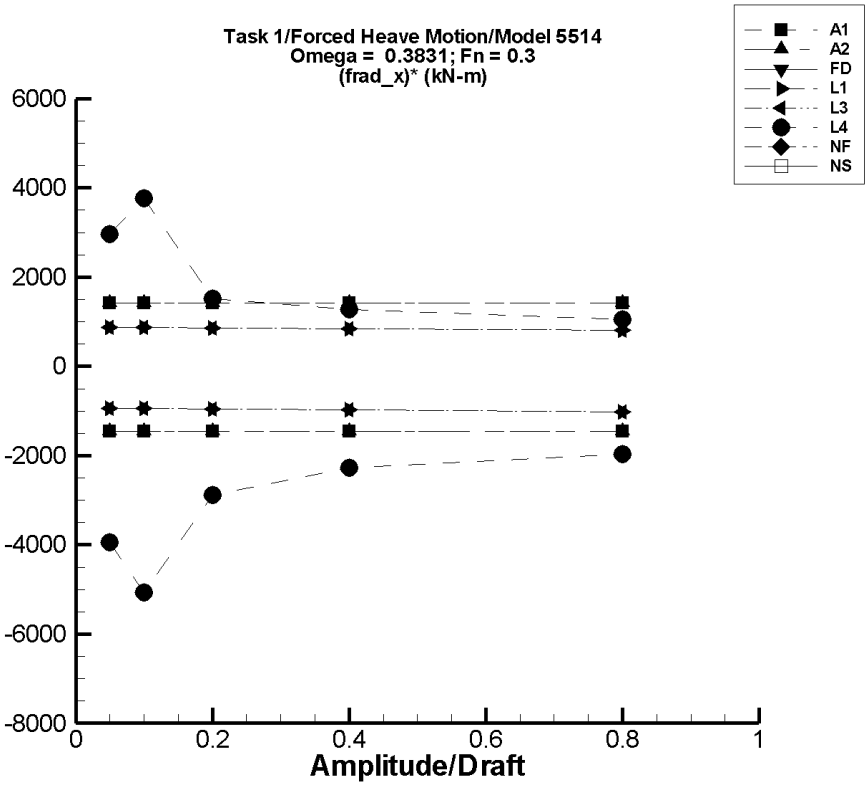

Figure L–47. Minimum and maximum of filtered $\left(F_x^{\text{rad}} - \langle F_x^{\text{rad}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–369. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle \boldsymbol{F_x^{\text{rad}}} \rangle$	**Unfiltered** $\boldsymbol{F_x^{\text{rad}}}$		**Filtered** $\boldsymbol{F_x^{\text{rad}}}$		**Filtered** $\left(\boldsymbol{F_x^{\text{rad}}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	1.52	-71.8	73.5	-71.5	72.7	-1.46E+03	1.42E+03
.10	3.04	-143.	147.	-143.	145.	-1.46E+03	1.42E+03
.20	6.08	-287.	294.	-285.	290.	-1.46E+03	1.42E+03
.40	12.2	-574.	587.	-571.	581.	-1.46E+03	1.42E+03
.80	24.3	-1.15E+03	1.17E+03	-1.14E+03	1.16E+03	-1.46E+03	1.42E+03

Table L–370. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle \boldsymbol{F_x^{\text{rad}}} \rangle$	**Unfiltered** $\boldsymbol{F_x^{\text{rad}}}$		**Filtered** $\boldsymbol{F_x^{\text{rad}}}$		**Filtered** $\left(\boldsymbol{F_x^{\text{rad}}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	1.52	-71.8	73.5	-71.5	72.7	-1.46E+03	1.42E+03
.10	3.04	-143.	147.	-143.	145.	-1.46E+03	1.42E+03
.20	6.08	-287.	294.	-285.	290.	-1.46E+03	1.42E+03
.40	12.2	-574.	587.	-571.	581.	-1.46E+03	1.42E+03
.80	24.3	-1.15E+03	1.17E+03	-1.14E+03	1.16E+03	-1.46E+03	1.42E+03

Table L–371. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

FREDYN							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–372. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-1							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN)
.05	-332.	-377.	-286.	-377.	-287.	-910.	901.
.10	-331.	-422.	-241.	-422.	-241.	-914.	895.
.20	-327.	-512.	-149.	-512.	-150.	-924.	886.
.40	-311.	-690.	37.1	-689.	36.4	-945.	870.
.80	-250.	-1.04E+03	427.	-1.04E+03	426.	-989.	844.

Table L–373. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-3							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN)
.05	-332.	-377.	-287.	-377.	-287.	-910.	901.
.10	-331.	-422.	-241.	-422.	-241.	-914.	895.
.20	-327.	-512.	-150.	-512.	-150.	-924.	886.
.40	-311.	-690.	36.7	-689.	36.3	-945.	870.
.80	-250.	-1.04E+03	427.	-1.04E+03	426.	-989.	844.

Table L–374. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-4							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN)
.05	-310.	-519.	39.3	-504.	-158.	-3.87E+03	3.03E+03
.10	-312.	-827.	373.	-811.	71.8	-4.99E+03	3.84E+03
.20	-285.	-888.	491.	-849.	28.3	-2.82E+03	1.57E+03
.40	-310.	-1.23E+03	447.	-1.20E+03	218.	-2.23E+03	1.32E+03
.80	-581.	-2.14E+03	607.	-2.12E+03	291.	-1.93E+03	1.09E+03

Table L–375. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NFA							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–376. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NSHIPMO							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

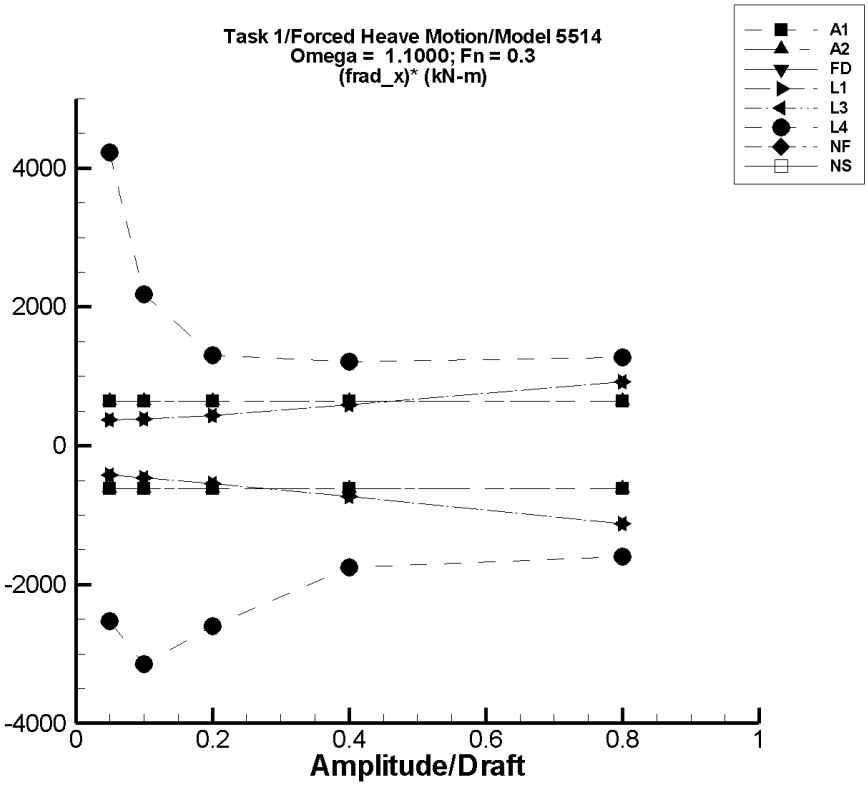

Figure L–48. Minimum and maximum of filtered $\left(F_x^{\text{rad}} - \langle F_x^{\text{rad}} \rangle\right) / (z_a/T)$ vs. (z_a/T) for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–377. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-1.81	-33.6	30.9	-32.6	30.1	-617.	637.
.10	-3.61	-67.1	61.7	-65.2	60.0	-616.	636.
.20	-7.22	-134.	123.	-130.	120.	-616.	636.
.40	-14.4	-268.	247.	-261.	240.	-616.	636.
.80	-28.9	-537.	494.	-521.	480.	-616.	636.

Table L–378. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	Unfiltered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		Filtered $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-1.81	-33.6	30.9	-32.6	30.1	-617.	637.
.10	-3.61	-67.1	61.7	-65.2	60.0	-616.	636.
.20	-7.22	-134.	123.	-130.	120.	-616.	636.
.40	-14.4	-268.	247.	-261.	240.	-616.	636.
.80	-28.9	-537.	494.	-521.	480.	-616.	636.

Table L–379. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

FREDYN							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–380. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-1							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN)
.05	-330.	-351.	-311.	-351.	-311.	-417.	377.
.10	-327.	-373.	-287.	-372.	-288.	-452.	389.
.20	-313.	-422.	-221.	-420.	-223.	-534.	450.
.40	-258.	-551.	-6.41	-542.	-13.9	-711.	610.
.80	-37.7	-930.	765.	-899.	733.	-1.08E+03	964.

Table L–381. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	-330.	-352.	-311.	-351.	-312.	-416.	377.
.10	-327.	-373.	-288.	-372.	-288.	-451.	389.
.20	-313.	-422.	-221.	-420.	-223.	-534.	450.
.40	-258.	-551.	-6.60	-542.	-14.1	-711.	610.
.80	-37.8	-930.	765.	-899.	733.	-1.08E+03	964.

Table L–382. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle \boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}} \rangle$	**Unfiltered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}$		**Filtered** $\left(\boldsymbol{F}_{\boldsymbol{x}}^{\text{rad}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	-283.	-458.	212.	-410.	-72.6	-2.54E+03	4.21E+03
.10	-230.	-556.	257.	-537.	-4.60	-3.07E+03	2.25E+03
.20	-173.	-751.	464.	-680.	99.2	-2.53E+03	1.36E+03
.40	-186.	-985.	890.	-870.	316.	-1.71E+03	1.26E+03
.80	69.1	-1.67E+03	2.18E+03	-1.18E+03	1.12E+03	-1.57E+03	1.31E+03

Table L–383. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NFA							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–384. Minimum and Maximum of Variables F_x^{rad} and $\left(F_x^{\text{rad}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NSHIPMO							
(z_a/T)	$\langle F_x^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_x^{rad} Min. (kN)	Unfiltered F_x^{rad} Max. (kN)	Filtered F_x^{rad} Min. (kN)	Filtered F_x^{rad} Max. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_x^{\text{rad}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

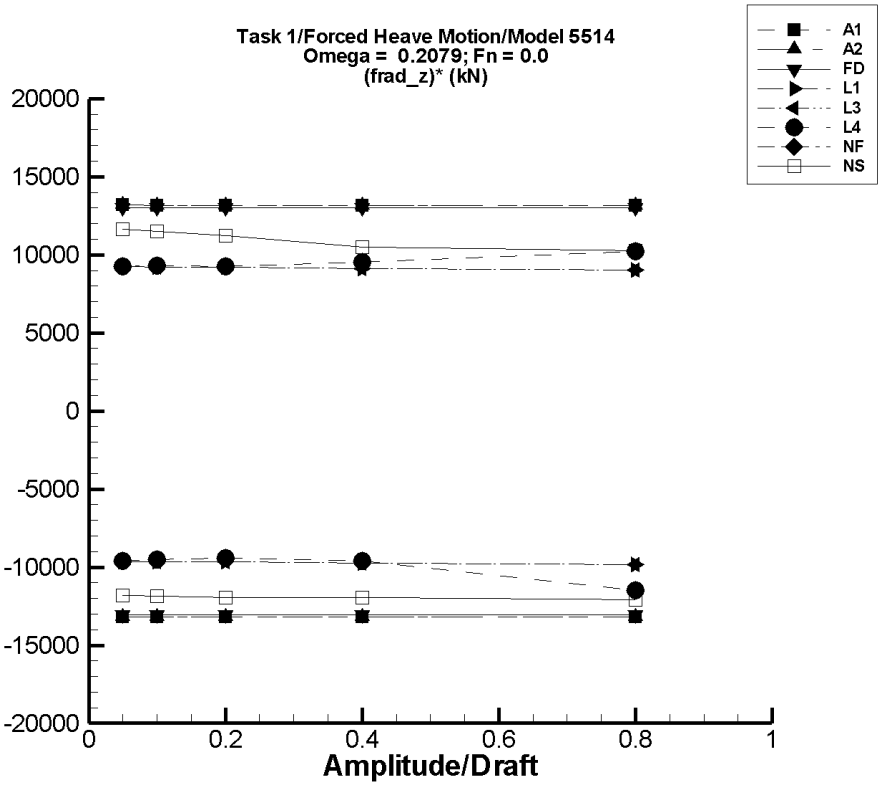

Figure L–49. Minimum and maximum of filtered $\left(F_z^{\text{rad}} - \langle F_z^{\text{rad}} \rangle\right) / (z_a/T)$ vs. (z_a/T) for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–385. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle F_z^{\text{rad}} \rangle$	**Unfiltered** F_z^{rad}		**Filtered** F_z^{rad}		**Filtered** $\left(F_z^{\text{rad}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	-2.99E-02	-661.	661.	-660.	660.	-1.32E+04	1.32E+04
.10	-5.97E-02	-1.32E+03	1.32E+03	-1.32E+03	1.32E+03	-1.32E+04	1.32E+04
.20	-0.119	-2.64E+03	2.64E+03	-2.63E+03	2.64E+03	-1.32E+04	1.32E+04
.40	-0.239	-5.28E+03	5.28E+03	-5.27E+03	5.27E+03	-1.32E+04	1.32E+04
.80	-0.477	-1.06E+04	1.06E+04	-1.05E+04	1.05E+04	-1.32E+04	1.32E+04

Table L–386. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle F_z^{\text{rad}} \rangle$	**Unfiltered** F_z^{rad}		**Filtered** F_z^{rad}		**Filtered** $\left(F_z^{\text{rad}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	-2.99E-02	-661.	661.	-660.	660.	-1.32E+04	1.32E+04
.10	-5.97E-02	-1.32E+03	1.32E+03	-1.32E+03	1.32E+03	-1.32E+04	1.32E+04
.20	-0.119	-2.64E+03	2.64E+03	-2.63E+03	2.64E+03	-1.32E+04	1.32E+04
.40	-0.239	-5.28E+03	5.28E+03	-5.27E+03	5.27E+03	-1.32E+04	1.32E+04
.80	-0.477	-1.06E+04	1.06E+04	-1.05E+04	1.05E+04	-1.32E+04	1.32E+04

Table L–387. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

FREDYN							
(z_a/T)	$\langle F_z^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_z^{rad} Min. (kN)	Unfiltered F_z^{rad} Max. (kN)	Filtered F_z^{rad} Min. (kN)	Filtered F_z^{rad} Max. (kN)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Max. (kN)
.05	2.03E-05	-652.	652.	-651.	651.	-1.30E+04	1.30E+04
.10	6.35E-05	-1.30E+03	1.30E+03	-1.30E+03	1.30E+03	-1.30E+04	1.30E+04
.20	6.90E-05	-2.61E+03	2.61E+03	-2.61E+03	2.61E+03	-1.30E+04	1.30E+04
.40	7.50E-05	-5.22E+03	5.22E+03	-5.21E+03	5.21E+03	-1.30E+04	1.30E+04
.80	3.64E-04	-1.04E+04	1.04E+04	-1.04E+04	1.04E+04	-1.30E+04	1.30E+04

Table L–388. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-1							
(z_a/T)	$\langle F_z^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_z^{rad} Min. (kN)	Unfiltered F_z^{rad} Max. (kN)	Filtered F_z^{rad} Min. (kN)	Filtered F_z^{rad} Max. (kN)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Max. (kN)
.05	0.746	-473.	472.	-472.	472.	-9.46E+03	9.43E+03
.10	2.99	-944.	943.	-943.	943.	-9.46E+03	9.40E+03
.20	12.0	-1.89E+03	1.89E+03	-1.89E+03	1.89E+03	-9.49E+03	9.37E+03
.40	47.9	-3.77E+03	3.77E+03	-3.77E+03	3.77E+03	-9.55E+03	9.31E+03
.80	192.	-7.55E+03	7.55E+03	-7.55E+03	7.54E+03	-9.67E+03	9.19E+03

Table L–389. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	0.746	-473.	472.	-472.	472.	-9.46E+03	9.43E+03
.10	2.99	-944.	943.	-943.	943.	-9.46E+03	9.40E+03
.20	12.0	-1.89E+03	1.89E+03	-1.89E+03	1.89E+03	-9.49E+03	9.37E+03
.40	47.9	-3.77E+03	3.77E+03	-3.77E+03	3.77E+03	-9.55E+03	9.31E+03
.80	192.	-7.55E+03	7.55E+03	-7.55E+03	7.54E+03	-9.67E+03	9.19E+03

Table L–390. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-2.09	-473.	470.	-473.	470.	-9.41E+03	9.45E+03
.10	-8.98	-946.	936.	-946.	935.	-9.37E+03	9.44E+03
.20	-42.5	-1.91E+03	1.84E+03	-1.90E+03	1.83E+03	-9.30E+03	9.38E+03
.40	-202.	-4.02E+03	3.66E+03	-4.00E+03	3.65E+03	-9.50E+03	9.62E+03
.80	-989.	-1.05E+04	7.27E+03	-1.02E+04	7.21E+03	-1.15E+04	1.03E+04

Table L–391. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NFA							
(z_a/T)	$\langle F_z^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_z^{rad} Min. (kN)	Max. (kN)	Filtered F_z^{rad} Min. (kN)	Max. (kN)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Min. (kN)	Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–392. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NSHIPMO							
(z_a/T)	$\langle F_z^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_z^{rad} Min. (kN)	Max. (kN)	Filtered F_z^{rad} Min. (kN)	Max. (kN)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Min. (kN)	Max. (kN)
.05	-0.746	-597.	586.	-591.	581.	-1.18E+04	1.16E+04
.10	-6.69	-1.20E+03	1.15E+03	-1.19E+03	1.14E+03	-1.18E+04	1.15E+04
.20	-37.6	-2.45E+03	2.23E+03	-2.42E+03	2.21E+03	-1.19E+04	1.12E+04
.40	-204.	-5.04E+03	4.06E+03	-4.99E+03	4.00E+03	-1.20E+04	1.05E+04
.80	-974.	-1.07E+04	7.45E+03	-1.06E+04	7.24E+03	-1.21E+04	1.03E+04

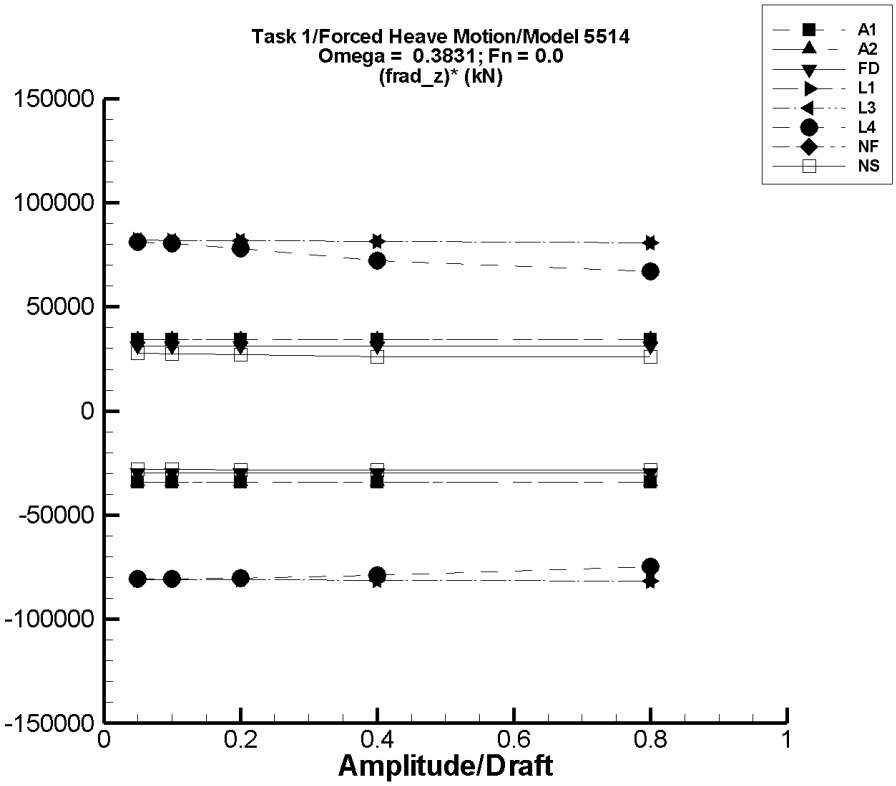

Figure L–50. Minimum and maximum of filtered $\left(F_z^{\text{rad}} - \langle F_z^{\text{rad}} \rangle\right) / (z_a/T)$ vs. (z_a/T) for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–393. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-1							
(z_a/T)	$\langle F_z^{\text{rad}} \rangle$ **Mean (kN)**	**Unfiltered** F_z^{rad} **Min. (kN)**	**Max. (kN)**	**Filtered** F_z^{rad} **Min. (kN)**	**Max. (kN)**	**Filtered** $\left(F_z^{\text{rad}}\right)^*$ **Min. (kN)**	**Max. (kN)**
.05	3.20	-1.72E+03	1.73E+03	-1.71E+03	1.72E+03	-3.43E+04	3.44E+04
.10	6.38	-3.43E+03	3.46E+03	-3.41E+03	3.44E+03	-3.42E+04	3.44E+04
.20	12.8	-6.85E+03	6.91E+03	-6.83E+03	6.89E+03	-3.42E+04	3.44E+04
.40	25.5	-1.37E+04	1.38E+04	-1.37E+04	1.38E+04	-3.42E+04	3.44E+04
.80	51.0	-2.74E+04	2.76E+04	-2.73E+04	2.76E+04	-3.42E+04	3.44E+04

Table L–394. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-2							
(z_a/T)	$\langle F_z^{\text{rad}} \rangle$ **Mean (kN)**	**Unfiltered** F_z^{rad} **Min. (kN)**	**Max. (kN)**	**Filtered** F_z^{rad} **Min. (kN)**	**Max. (kN)**	**Filtered** $\left(F_z^{\text{rad}}\right)^*$ **Min. (kN)**	**Max. (kN)**
.05	3.20	-1.72E+03	1.73E+03	-1.71E+03	1.72E+03	-3.43E+04	3.44E+04
.10	6.38	-3.43E+03	3.46E+03	-3.41E+03	3.44E+03	-3.42E+04	3.44E+04
.20	12.8	-6.85E+03	6.91E+03	-6.83E+03	6.89E+03	-3.42E+04	3.44E+04
.40	25.5	-1.37E+04	1.38E+04	-1.37E+04	1.38E+04	-3.42E+04	3.44E+04
.80	51.0	-2.74E+04	2.76E+04	-2.73E+04	2.76E+04	-3.42E+04	3.44E+04

Table L–395. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle \boldsymbol{F_z^{\text{rad}}} \rangle$	**Unfiltered** $\boldsymbol{F_z^{\text{rad}}}$		**Filtered** $\boldsymbol{F_z^{\text{rad}}}$		**Filtered** $\left(\boldsymbol{F_z^{\text{rad}}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	-1.75E-04	-1.52E+03	1.52E+03	-1.52E+03	1.52E+03	-3.04E+04	3.03E+04
.10	-2.28E-04	-3.04E+03	3.04E+03	-3.04E+03	3.03E+03	-3.04E+04	3.03E+04
.20	-5.54E-04	-6.09E+03	6.09E+03	-6.08E+03	6.07E+03	-3.04E+04	3.03E+04
.40	-1.24E-03	-1.22E+04	1.22E+04	-1.22E+04	1.21E+04	-3.04E+04	3.03E+04
.80	-2.43E-03	-2.44E+04	2.44E+04	-2.43E+04	2.43E+04	-3.04E+04	3.03E+04

Table L–396. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle \boldsymbol{F_z^{\text{rad}}} \rangle$	**Unfiltered** $\boldsymbol{F_z^{\text{rad}}}$		**Filtered** $\boldsymbol{F_z^{\text{rad}}}$		**Filtered** $\left(\boldsymbol{F_z^{\text{rad}}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	5.29	-4.07E+03	4.08E+03	-4.07E+03	4.08E+03	-8.15E+04	8.14E+04
.10	18.3	-8.13E+03	8.15E+03	-8.12E+03	8.14E+03	-8.14E+04	8.12E+04
.20	67.6	-1.63E+04	1.63E+04	-1.62E+04	1.63E+04	-8.16E+04	8.11E+04
.40	259.	-3.25E+04	3.26E+04	-3.25E+04	3.26E+04	-8.18E+04	8.08E+04
.80	1.01E+03	-6.50E+04	6.54E+04	-6.49E+04	6.53E+04	-8.24E+04	8.04E+04

Table L–397. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	5.29	-4.07E+03	4.08E+03	-4.07E+03	4.08E+03	-8.15E+04	8.14E+04
.10	18.3	-8.13E+03	8.15E+03	-8.12E+03	8.14E+03	-8.14E+04	8.12E+04
.20	67.6	-1.63E+04	1.63E+04	-1.62E+04	1.63E+04	-8.16E+04	8.11E+04
.40	259.	-3.25E+04	3.26E+04	-3.25E+04	3.26E+04	-8.18E+04	8.08E+04
.80	1.01E+03	-6.50E+04	6.54E+04	-6.49E+04	6.53E+04	-8.24E+04	8.04E+04

Table L–398. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-19.5	-4.08E+03	4.01E+03	-4.07E+03	4.00E+03	-8.11E+04	8.05E+04
.10	-83.2	-8.21E+03	7.91E+03	-8.19E+03	7.90E+03	-8.11E+04	7.98E+04
.20	-390.	-1.66E+04	1.52E+04	-1.66E+04	1.51E+04	-8.08E+04	7.75E+04
.40	-1.78E+03	-3.39E+04	2.69E+04	-3.36E+04	2.69E+04	-7.96E+04	7.16E+04
.80	-8.04E+03	-6.95E+04	4.54E+04	-6.82E+04	4.51E+04	-7.52E+04	6.64E+04

Table L–399. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NFA							
(z_a/T)	$\langle F_z^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_z^{rad} Min. (kN)	Max. (kN)	Filtered F_z^{rad} Min. (kN)	Max. (kN)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Min. (kN)	Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–400. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NSHIPMO							
(z_a/T)	$\langle F_z^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_z^{rad} Min. (kN)	Max. (kN)	Filtered F_z^{rad} Min. (kN)	Max. (kN)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Min. (kN)	Max. (kN)
.05	-7.48	-1.42E+03	1.39E+03	-1.41E+03	1.37E+03	-2.80E+04	2.76E+04
.10	-23.4	-2.86E+03	2.75E+03	-2.83E+03	2.72E+03	-2.81E+04	2.74E+04
.20	-87.7	-5.81E+03	5.38E+03	-5.74E+03	5.32E+03	-2.83E+04	2.71E+04
.40	-416.	-1.19E+04	1.03E+04	-1.17E+04	9.97E+03	-2.83E+04	2.60E+04
.80	-1.92E+03	-2.48E+04	1.94E+04	-2.46E+04	1.88E+04	-2.83E+04	2.59E+04

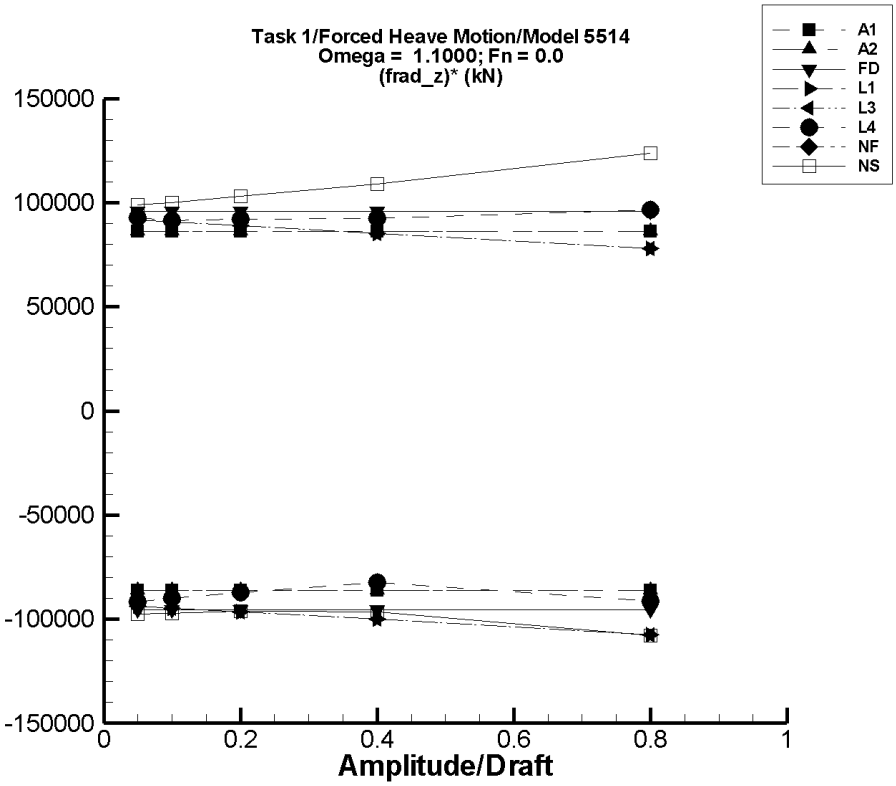

Figure L–51. Minimum and maximum of filtered $\left(F_z^{\text{rad}} - \langle F_z^{\text{rad}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–401. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle F_z^{\text{rad}} \rangle$	**Unfiltered** F_z^{rad}		**Filtered** F_z^{rad}		**Filtered** $\left(F_z^{\text{rad}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	-5.24	-4.45E+03	4.44E+03	-4.31E+03	4.31E+03	-8.61E+04	8.63E+04
.10	-10.5	-8.88E+03	8.87E+03	-8.61E+03	8.60E+03	-8.60E+04	8.61E+04
.20	-20.9	-1.78E+04	1.77E+04	-1.72E+04	1.72E+04	-8.60E+04	8.61E+04
.40	-41.9	-3.55E+04	3.55E+04	-3.44E+04	3.44E+04	-8.60E+04	8.61E+04
.80	-83.7	-7.11E+04	7.10E+04	-6.89E+04	6.88E+04	-8.60E+04	8.61E+04

Table L–402. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle F_z^{\text{rad}} \rangle$	**Unfiltered** F_z^{rad}		**Filtered** F_z^{rad}		**Filtered** $\left(F_z^{\text{rad}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	-5.24	-4.45E+03	4.44E+03	-4.31E+03	4.31E+03	-8.61E+04	8.63E+04
.10	-10.5	-8.88E+03	8.87E+03	-8.61E+03	8.60E+03	-8.60E+04	8.61E+04
.20	-20.9	-1.78E+04	1.77E+04	-1.72E+04	1.72E+04	-8.60E+04	8.61E+04
.40	-41.9	-3.55E+04	3.55E+04	-3.44E+04	3.44E+04	-8.60E+04	8.61E+04
.80	-83.7	-7.11E+04	7.10E+04	-6.89E+04	6.88E+04	-8.60E+04	8.61E+04

Table L–403. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle F_z^{\text{rad}} \rangle$	**Unfiltered** F_z^{rad}		**Filtered** F_z^{rad}		**Filtered** $\left(F_z^{\text{rad}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	-9.77E-05	-4.93E+03	4.92E+03	-4.78E+03	4.78E+03	-9.56E+04	9.56E+04
.10	-1.96E-04	-9.86E+03	9.85E+03	-9.56E+03	9.56E+03	-9.56E+04	9.56E+04
.20	-7.00E-04	-1.97E+04	1.97E+04	-1.91E+04	1.91E+04	-9.56E+04	9.56E+04
.40	-7.75E-04	-3.94E+04	3.94E+04	-3.82E+04	3.83E+04	-9.56E+04	9.56E+04
.80	-1.51E-03	-7.89E+04	7.88E+04	-7.64E+04	7.65E+04	-9.56E+04	9.56E+04

Table L–404. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle F_z^{\text{rad}} \rangle$	**Unfiltered** F_z^{rad}		**Filtered** F_z^{rad}		**Filtered** $\left(F_z^{\text{rad}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	-21.2	-4.75E+03	4.64E+03	-4.70E+03	4.59E+03	-9.35E+04	9.22E+04
.10	-76.4	-9.61E+03	9.13E+03	-9.50E+03	9.04E+03	-9.43E+04	9.12E+04
.20	-290.	-1.97E+04	1.78E+04	-1.95E+04	1.76E+04	-9.61E+04	8.93E+04
.40	-1.13E+03	-4.16E+04	3.34E+04	-4.10E+04	3.32E+04	-9.97E+04	8.57E+04
.80	-4.45E+03	-9.14E+04	5.87E+04	-9.00E+04	5.84E+04	-1.07E+05	7.85E+04

Table L–405. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-21.2	-4.75E+03	4.64E+03	-4.70E+03	4.59E+03	-9.35E+04	9.22E+04
.10	-76.4	-9.61E+03	9.13E+03	-9.50E+03	9.04E+03	-9.43E+04	9.12E+04
.20	-290.	-1.97E+04	1.78E+04	-1.95E+04	1.76E+04	-9.61E+04	8.93E+04
.40	-1.13E+03	-4.16E+04	3.34E+04	-4.10E+04	3.32E+04	-9.97E+04	8.57E+04
.80	-4.45E+03	-9.14E+04	5.87E+04	-9.00E+04	5.84E+04	-1.07E+05	7.85E+04

Table L–406. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-22.9	-4.68E+03	4.71E+03	-4.58E+03	4.64E+03	-9.11E+04	9.32E+04
.10	-115.	-9.32E+03	9.36E+03	-9.07E+03	9.09E+03	-8.95E+04	9.21E+04
.20	-386.	-1.85E+04	1.87E+04	-1.77E+04	1.82E+04	-8.65E+04	9.29E+04
.40	-1.48E+03	-3.57E+04	3.80E+04	-3.39E+04	3.60E+04	-8.10E+04	9.37E+04
.80	-5.23E+03	-8.05E+04	7.82E+04	-7.66E+04	7.37E+04	-8.92E+04	9.87E+04

Table L–407. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NFA							
(z_a/T)	$\langle F_z^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_z^{rad} Min. (kN)	Max. (kN)	Filtered F_z^{rad} Min. (kN)	Max. (kN)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Min. (kN)	Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–408. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NSHIPMO							
(z_a/T)	$\langle F_z^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_z^{rad} Min. (kN)	Max. (kN)	Filtered F_z^{rad} Min. (kN)	Max. (kN)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Min. (kN)	Max. (kN)
.05	-49.3	-4.98E+03	4.96E+03	-4.93E+03	4.91E+03	-9.76E+04	9.91E+04
.10	-145.	-9.94E+03	9.98E+03	-9.85E+03	9.87E+03	-9.70E+04	1.00E+05
.20	-492.	-1.99E+04	2.04E+04	-1.97E+04	2.01E+04	-9.62E+04	1.03E+05
.40	-2.11E+03	-4.12E+04	4.37E+04	-4.07E+04	4.15E+04	-9.65E+04	1.09E+05
.80	-8.75E+03	-9.56E+04	9.53E+04	-9.49E+04	9.03E+04	-1.08E+05	1.24E+05

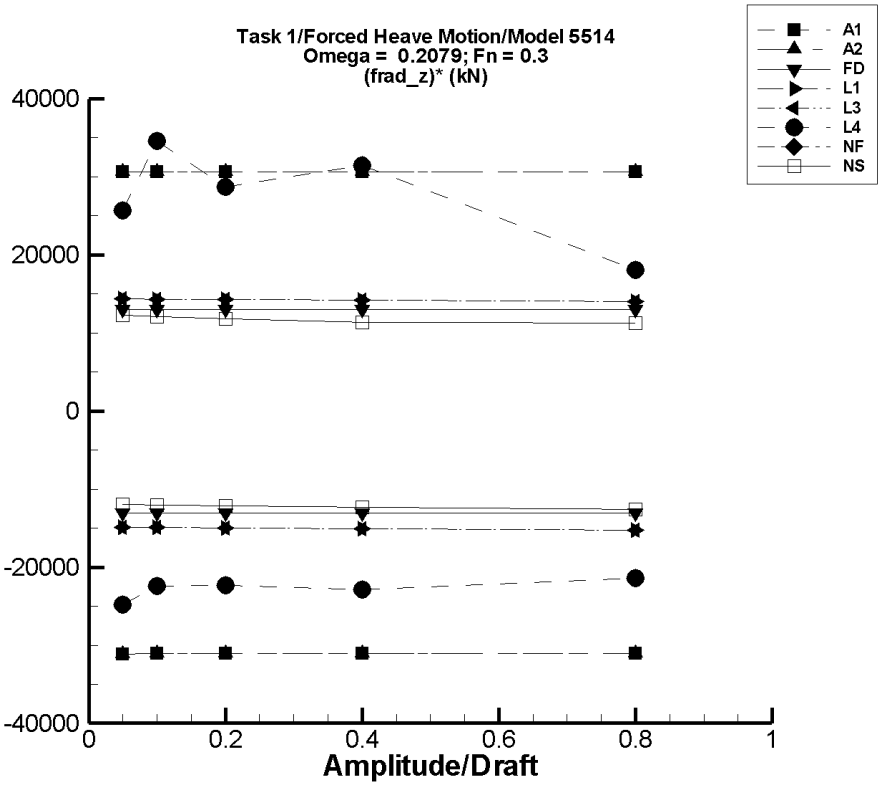

Figure L–52. Minimum and maximum of filtered $\left(F_z^{\text{rad}} - \langle F_z^{\text{rad}} \rangle\right) / (z_a/T)$ vs. (z_a/T) for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–409. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-1							
(z_a/T)	$\langle F_z^{\text{rad}} \rangle$ **Mean (kN)**	**Unfiltered** F_z^{rad} **Min. (kN)**	**Max. (kN)**	**Filtered** F_z^{rad} **Min. (kN)**	**Max. (kN)**	**Filtered** $\left(F_z^{\text{rad}}\right)^*$ **Min. (kN)**	**Max. (kN)**
.05	-8.84	-1.57E+03	1.52E+03	-1.57E+03	1.52E+03	-3.11E+04	3.06E+04
.10	-17.7	-3.13E+03	3.04E+03	-3.13E+03	3.04E+03	-3.11E+04	3.06E+04
.20	-35.3	-6.26E+03	6.09E+03	-6.25E+03	6.08E+03	-3.11E+04	3.06E+04
.40	-70.6	-1.25E+04	1.22E+04	-1.25E+04	1.22E+04	-3.11E+04	3.06E+04
.80	-141.	-2.50E+04	2.44E+04	-2.50E+04	2.43E+04	-3.11E+04	3.06E+04

Table L–410. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-2							
(z_a/T)	$\langle F_z^{\text{rad}} \rangle$ **Mean (kN)**	**Unfiltered** F_z^{rad} **Min. (kN)**	**Max. (kN)**	**Filtered** F_z^{rad} **Min. (kN)**	**Max. (kN)**	**Filtered** $\left(F_z^{\text{rad}}\right)^*$ **Min. (kN)**	**Max. (kN)**
.05	-8.84	-1.57E+03	1.52E+03	-1.57E+03	1.52E+03	-3.11E+04	3.06E+04
.10	-17.7	-3.13E+03	3.04E+03	-3.13E+03	3.04E+03	-3.11E+04	3.06E+04
.20	-35.3	-6.26E+03	6.09E+03	-6.25E+03	6.08E+03	-3.11E+04	3.06E+04
.40	-70.6	-1.25E+04	1.22E+04	-1.25E+04	1.22E+04	-3.11E+04	3.06E+04
.80	-141.	-2.50E+04	2.44E+04	-2.50E+04	2.43E+04	-3.11E+04	3.06E+04

Table L–411. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	1.28E-05	-652.	652.	-651.	651.	-1.30E+04	1.30E+04
.10	6.35E-05	-1.30E+03	1.30E+03	-1.30E+03	1.30E+03	-1.30E+04	1.30E+04
.20	6.90E-05	-2.61E+03	2.61E+03	-2.61E+03	2.61E+03	-1.30E+04	1.30E+04
.40	7.50E-05	-5.22E+03	5.22E+03	-5.21E+03	5.21E+03	-1.30E+04	1.30E+04
.80	3.64E-04	-1.04E+04	1.04E+04	-1.04E+04	1.04E+04	-1.30E+04	1.30E+04

Table L–412. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-4.74E+03	-5.48E+03	-4.01E+03	-5.48E+03	-4.01E+03	-1.47E+04	1.46E+04
.10	-4.74E+03	-6.21E+03	-3.28E+03	-6.21E+03	-3.28E+03	-1.47E+04	1.46E+04
.20	-4.73E+03	-7.67E+03	-1.82E+03	-7.67E+03	-1.82E+03	-1.47E+04	1.45E+04
.40	-4.68E+03	-1.06E+04	1.10E+03	-1.06E+04	1.10E+03	-1.48E+04	1.45E+04
.80	-4.48E+03	-1.65E+04	6.94E+03	-1.65E+04	6.94E+03	-1.50E+04	1.43E+04

Table L–413. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-4.74E+03	-5.48E+03	-4.01E+03	-5.48E+03	-4.01E+03	-1.47E+04	1.46E+04
.10	-4.74E+03	-6.21E+03	-3.28E+03	-6.21E+03	-3.28E+03	-1.47E+04	1.46E+04
.20	-4.73E+03	-7.67E+03	-1.82E+03	-7.67E+03	-1.82E+03	-1.47E+04	1.45E+04
.40	-4.68E+03	-1.06E+04	1.10E+03	-1.06E+04	1.10E+03	-1.48E+04	1.45E+04
.80	-4.48E+03	-1.65E+04	6.94E+03	-1.65E+04	6.94E+03	-1.50E+04	1.43E+04

Table L–414. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-4.74E+03	-5.97E+03	-3.42E+03	-5.96E+03	-3.44E+03	-2.44E+04	2.61E+04
.10	-4.77E+03	-7.06E+03	-1.20E+03	-6.98E+03	-1.28E+03	-2.20E+04	3.50E+04
.20	-4.85E+03	-9.28E+03	1.18E+03	-9.25E+03	954.	-2.20E+04	2.90E+04
.40	-5.18E+03	-1.43E+04	7.91E+03	-1.42E+04	7.55E+03	-2.25E+04	3.18E+04
.80	-6.54E+03	-2.47E+04	8.53E+03	-2.34E+04	8.21E+03	-2.11E+04	1.84E+04

Table L–415. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NFA							
(z_a/T)	$\langle F_z^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_z^{rad} Min. (kN)	Unfiltered F_z^{rad} Max. (kN)	Filtered F_z^{rad} Min. (kN)	Filtered F_z^{rad} Max. (kN)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–416. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NSHIPMO							
(z_a/T)	$\langle F_z^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_z^{rad} Min. (kN)	Unfiltered F_z^{rad} Max. (kN)	Filtered F_z^{rad} Min. (kN)	Filtered F_z^{rad} Max. (kN)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Min. (kN)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Max. (kN)
.05	-10.4	-615.	608.	-608.	602.	-1.20E+04	1.22E+04
.10	-26.7	-1.24E+03	1.20E+03	-1.23E+03	1.19E+03	-1.20E+04	1.21E+04
.20	-77.0	-2.54E+03	2.31E+03	-2.51E+03	2.29E+03	-1.22E+04	1.18E+04
.40	-233.	-5.21E+03	4.42E+03	-5.15E+03	4.29E+03	-1.23E+04	1.13E+04
.80	-953.	-1.11E+04	8.22E+03	-1.10E+04	8.07E+03	-1.26E+04	1.13E+04

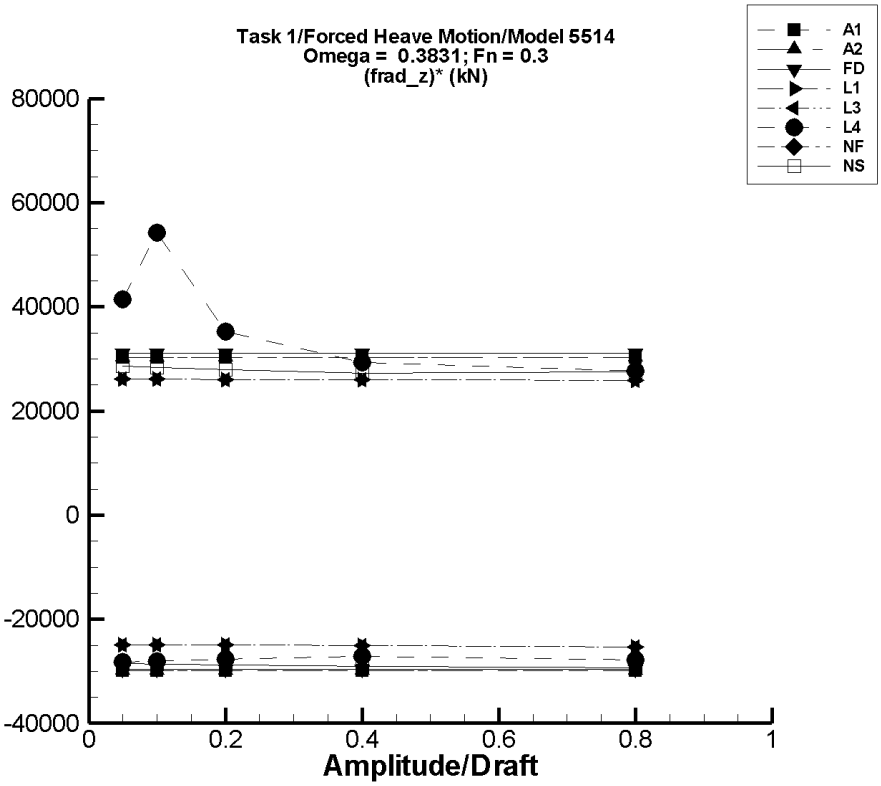

Figure L–53. Minimum and maximum of filtered $\left(F_z^{\text{rad}} - \langle F_z^{\text{rad}} \rangle\right) / (z_a/T)$ vs. (z_a/T) for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–417. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-3.57	-1.52E+03	1.52E+03	-1.50E+03	1.51E+03	-2.99E+04	3.03E+04
.10	-7.14	-3.04E+03	3.03E+03	-2.99E+03	3.02E+03	-2.98E+04	3.02E+04
.20	-14.3	-6.07E+03	6.06E+03	-5.98E+03	6.03E+03	-2.98E+04	3.02E+04
.40	-28.5	-1.21E+04	1.21E+04	-1.20E+04	1.21E+04	-2.98E+04	3.02E+04
.80	-57.1	-2.43E+04	2.42E+04	-2.39E+04	2.41E+04	-2.98E+04	3.02E+04

Table L–418. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-3.57	-1.52E+03	1.52E+03	-1.50E+03	1.51E+03	-2.99E+04	3.03E+04
.10	-7.14	-3.04E+03	3.03E+03	-2.99E+03	3.02E+03	-2.98E+04	3.02E+04
.20	-14.3	-6.07E+03	6.06E+03	-5.98E+03	6.03E+03	-2.98E+04	3.02E+04
.40	-28.5	-1.21E+04	1.21E+04	-1.20E+04	1.21E+04	-2.98E+04	3.02E+04
.80	-57.1	-2.43E+04	2.42E+04	-2.39E+04	2.41E+04	-2.98E+04	3.02E+04

Table L–419. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-1.75E-04	-1.52E+03	1.52E+03	-1.52E+03	1.52E+03	-3.04E+04	3.03E+04
.10	-2.28E-04	-3.04E+03	3.04E+03	-3.04E+03	3.03E+03	-3.04E+04	3.03E+04
.20	-5.54E-04	-6.09E+03	6.09E+03	-6.08E+03	6.07E+03	-3.04E+04	3.03E+04
.40	-1.24E-03	-1.22E+04	1.22E+04	-1.22E+04	1.21E+04	-3.04E+04	3.03E+04
.80	-2.43E-03	-2.44E+04	2.44E+04	-2.43E+04	2.43E+04	-3.04E+04	3.03E+04

Table L–420. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-4.74E+03	-6.02E+03	-3.46E+03	-6.02E+03	-3.47E+03	-2.56E+04	2.55E+04
.10	-4.74E+03	-7.30E+03	-2.19E+03	-7.29E+03	-2.19E+03	-2.56E+04	2.55E+04
.20	-4.71E+03	-9.84E+03	380.	-9.83E+03	374.	-2.56E+04	2.54E+04
.40	-4.62E+03	-1.49E+04	5.54E+03	-1.49E+04	5.53E+03	-2.57E+04	2.54E+04
.80	-4.23E+03	-2.50E+04	1.60E+04	-2.50E+04	1.60E+04	-2.59E+04	2.53E+04

Table L–421. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-4.74E+03	-6.02E+03	-3.47E+03	-6.02E+03	-3.47E+03	-2.56E+04	2.55E+04
.10	-4.74E+03	-7.30E+03	-2.19E+03	-7.29E+03	-2.19E+03	-2.55E+04	2.55E+04
.20	-4.71E+03	-9.84E+03	380.	-9.83E+03	373.	-2.56E+04	2.54E+04
.40	-4.62E+03	-1.49E+04	5.54E+03	-1.49E+04	5.53E+03	-2.57E+04	2.54E+04
.80	-4.23E+03	-2.50E+04	1.60E+04	-2.50E+04	1.60E+04	-2.59E+04	2.53E+04

Table L–422. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-4.72E+03	-6.25E+03	-2.49E+03	-6.17E+03	-2.69E+03	-2.90E+04	4.06E+04
.10	-4.77E+03	-7.71E+03	738.	-7.65E+03	575.	-2.88E+04	5.34E+04
.20	-4.82E+03	-1.06E+04	2.25E+03	-1.05E+04	2.05E+03	-2.85E+04	3.44E+04
.40	-5.09E+03	-1.66E+04	6.81E+03	-1.63E+04	6.30E+03	-2.79E+04	2.85E+04
.80	-5.40E+03	-2.99E+04	1.68E+04	-2.83E+04	1.62E+04	-2.86E+04	2.70E+04

Table L–423. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NFA							
(z_a/T)	$\langle F_z^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_z^{rad} Min. (kN)	Max. (kN)	Filtered F_z^{rad} Min. (kN)	Max. (kN)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Min. (kN)	Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–424. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NSHIPMO							
(z_a/T)	$\langle F_z^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_z^{rad} Min. (kN)	Max. (kN)	Filtered F_z^{rad} Min. (kN)	Max. (kN)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Min. (kN)	Max. (kN)
.05	-23.1	-1.46E+03	1.42E+03	-1.45E+03	1.41E+03	-2.84E+04	2.86E+04
.10	-57.0	-2.95E+03	2.81E+03	-2.92E+03	2.78E+03	-2.86E+04	2.84E+04
.20	-162.	-5.99E+03	5.48E+03	-5.93E+03	5.42E+03	-2.88E+04	2.79E+04
.40	-456.	-1.22E+04	1.09E+04	-1.21E+04	1.05E+04	-2.90E+04	2.73E+04
.80	-1.82E+03	-2.55E+04	2.08E+04	-2.53E+04	2.02E+04	-2.94E+04	2.76E+04

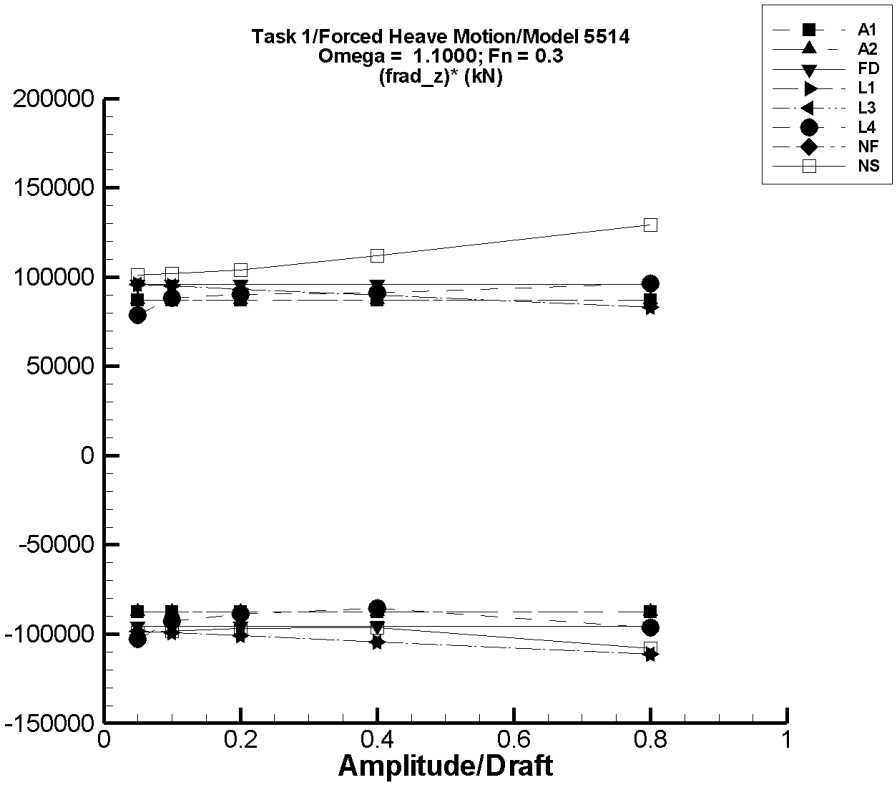

Figure L–54. Minimum and maximum of filtered $\left(F_z^{\text{rad}} - \langle F_z^{\text{rad}} \rangle\right) / (z_a/T)$ vs. (z_a/T) for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–425. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle F_z^{\text{rad}} \rangle$	**Unfiltered** F_z^{rad}		**Filtered** F_z^{rad}		**Filtered** $\left(F_z^{\text{rad}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	-20.0	-4.55E+03	4.48E+03	-4.41E+03	4.34E+03	-8.77E+04	8.72E+04
.10	-40.0	-9.08E+03	8.95E+03	-8.80E+03	8.67E+03	-8.76E+04	8.71E+04
.20	-80.0	-1.82E+04	1.79E+04	-1.76E+04	1.73E+04	-8.76E+04	8.71E+04
.40	-160.	-3.63E+04	3.58E+04	-3.52E+04	3.47E+04	-8.76E+04	8.71E+04
.80	-320.	-7.26E+04	7.16E+04	-7.04E+04	6.93E+04	-8.76E+04	8.71E+04

Table L–426. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle F_z^{\text{rad}} \rangle$	**Unfiltered** F_z^{rad}		**Filtered** F_z^{rad}		**Filtered** $\left(F_z^{\text{rad}}\right)^*$	
(z_a/T)	**Mean (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**	**Min. (kN)**	**Max. (kN)**
.05	-20.0	-4.55E+03	4.48E+03	-4.41E+03	4.34E+03	-8.77E+04	8.72E+04
.10	-40.0	-9.08E+03	8.95E+03	-8.80E+03	8.67E+03	-8.76E+04	8.71E+04
.20	-80.0	-1.82E+04	1.79E+04	-1.76E+04	1.73E+04	-8.76E+04	8.71E+04
.40	-160.	-3.63E+04	3.58E+04	-3.52E+04	3.47E+04	-8.76E+04	8.71E+04
.80	-320.	-7.26E+04	7.16E+04	-7.04E+04	6.93E+04	-8.76E+04	8.71E+04

Table L–427. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-9.77E-05	-4.93E+03	4.92E+03	-4.78E+03	4.78E+03	-9.56E+04	9.56E+04
.10	-1.96E-04	-9.86E+03	9.85E+03	-9.56E+03	9.56E+03	-9.56E+04	9.56E+04
.20	-7.00E-04	-1.97E+04	1.97E+04	-1.91E+04	1.91E+04	-9.56E+04	9.56E+04
.40	-7.75E-04	-3.94E+04	3.94E+04	-3.82E+04	3.83E+04	-9.56E+04	9.56E+04
.80	-1.51E-03	-7.89E+04	7.88E+04	-7.64E+04	7.65E+04	-9.56E+04	9.56E+04

Table L–428. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-4.75E+03	-9.71E+03	119.	-9.66E+03	69.9	-9.81E+04	9.65E+04
.10	-4.80E+03	-1.48E+04	4.84E+03	-1.47E+04	4.74E+03	-9.88E+04	9.54E+04
.20	-4.98E+03	-2.53E+04	1.39E+04	-2.51E+04	1.38E+04	-1.01E+05	9.37E+04
.40	-5.69E+03	-4.79E+04	3.07E+04	-4.73E+04	3.04E+04	-1.04E+05	9.02E+04
.80	-8.56E+03	-9.87E+04	5.84E+04	-9.73E+04	5.81E+04	-1.11E+05	8.33E+04

Table L–429. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-4.76E+03	-9.72E+03	119.	-9.66E+03	69.4	-9.81E+04	9.65E+04
.10	-4.80E+03	-1.48E+04	4.84E+03	-1.47E+04	4.74E+03	-9.88E+04	9.54E+04
.20	-4.98E+03	-2.53E+04	1.39E+04	-2.51E+04	1.38E+04	-1.01E+05	9.37E+04
.40	-5.69E+03	-4.79E+04	3.07E+04	-4.73E+04	3.04E+04	-1.04E+05	9.02E+04
.80	-8.56E+03	-9.87E+04	5.84E+04	-9.73E+04	5.81E+04	-1.11E+05	8.33E+04

Table L–430. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle F_z^{\text{rad}} \rangle$	Unfiltered F_z^{rad}		Filtered F_z^{rad}		Filtered $\left(F_z^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)	Min. (kN)	Max. (kN)
.05	-4.73E+03	-1.00E+04	-725.	-9.88E+03	-817.	-1.03E+05	7.83E+04
.10	-4.87E+03	-1.44E+04	4.32E+03	-1.41E+04	4.02E+03	-9.21E+04	8.89E+04
.20	-5.34E+03	-2.37E+04	1.33E+04	-2.29E+04	1.29E+04	-8.80E+04	9.11E+04
.40	-6.73E+03	-4.21E+04	3.32E+04	-4.04E+04	3.02E+04	-8.43E+04	9.24E+04
.80	-1.02E+04	-8.91E+04	7.28E+04	-8.55E+04	6.85E+04	-9.41E+04	9.85E+04

Table L–431. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NFA							
(z_a/T)	$\langle F_z^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_z^{rad} Min. (kN)	Max. (kN)	Filtered F_z^{rad} Min. (kN)	Max. (kN)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Min. (kN)	Max. (kN)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–432. Minimum and Maximum of Variables F_z^{rad} and $\left(F_z^{\text{rad}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NSHIPMO							
(z_a/T)	$\langle F_z^{\text{rad}} \rangle$ Mean (kN)	Unfiltered F_z^{rad} Min. (kN)	Max. (kN)	Filtered F_z^{rad} Min. (kN)	Max. (kN)	Filtered $\left(F_z^{\text{rad}}\right)^*$ Min. (kN)	Max. (kN)
.05	-85.4	-5.09E+03	5.01E+03	-5.04E+03	4.96E+03	-9.91E+04	1.01E+05
.10	-249.	-1.02E+04	1.01E+04	-1.01E+04	9.94E+03	-9.83E+04	1.02E+05
.20	-887.	-2.05E+04	2.02E+04	-2.03E+04	1.99E+04	-9.69E+04	1.04E+05
.40	-2.21E+03	-4.12E+04	4.55E+04	-4.07E+04	4.25E+04	-9.63E+04	1.12E+05
.80	-7.44E+03	-9.46E+04	1.01E+05	-9.39E+04	9.58E+04	-1.08E+05	1.29E+05

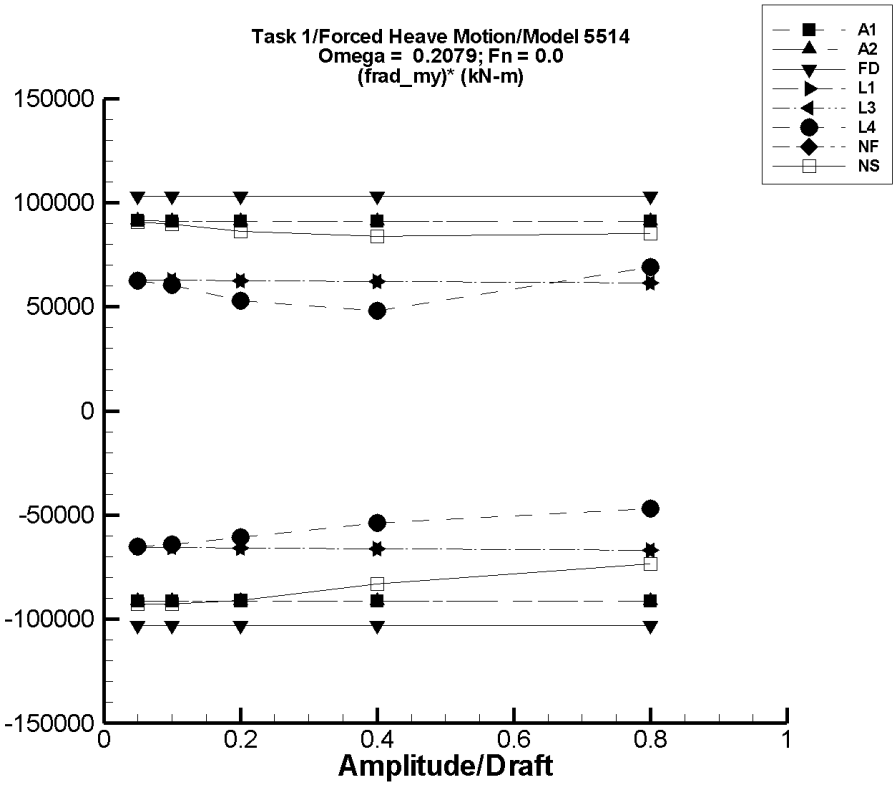

Figure L–55. Minimum and maximum of filtered $\left(M_y^{\text{rad}} - \langle M_y^{\text{rad}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.2079$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–433. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	-0.485	-4.57E+03	4.58E+03	-4.57E+03	4.57E+03	-9.13E+04	9.14E+04
.10	-0.968	-9.13E+03	9.14E+03	-9.12E+03	9.13E+03	-9.12E+04	9.13E+04
.20	-1.94	-1.83E+04	1.83E+04	-1.82E+04	1.83E+04	-9.12E+04	9.13E+04
.40	-3.88	-3.65E+04	3.66E+04	-3.65E+04	3.65E+04	-9.12E+04	9.13E+04
.80	-7.75	-7.31E+04	7.31E+04	-7.29E+04	7.30E+04	-9.12E+04	9.13E+04

Table L–434. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	-0.485	-4.57E+03	4.58E+03	-4.57E+03	4.57E+03	-9.13E+04	9.14E+04
.10	-0.968	-9.13E+03	9.14E+03	-9.12E+03	9.13E+03	-9.12E+04	9.13E+04
.20	-1.94	-1.83E+04	1.83E+04	-1.82E+04	1.83E+04	-9.12E+04	9.13E+04
.40	-3.88	-3.65E+04	3.66E+04	-3.65E+04	3.65E+04	-9.12E+04	9.13E+04
.80	-7.75	-7.31E+04	7.31E+04	-7.29E+04	7.30E+04	-9.12E+04	9.13E+04

Table L–435. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	6.96E-05	-5.16E+03	5.16E+03	-5.15E+03	5.15E+03	-1.03E+05	1.03E+05
.10	-1.03E-03	-1.03E+04	1.03E+04	-1.03E+04	1.03E+04	-1.03E+05	1.03E+05
.20	-1.58E-03	-2.06E+04	2.06E+04	-2.06E+04	2.06E+04	-1.03E+05	1.03E+05
.40	-2.17E-03	-4.13E+04	4.13E+04	-4.12E+04	4.12E+04	-1.03E+05	1.03E+05
.80	-5.49E-03	-8.25E+04	8.25E+04	-8.24E+04	8.24E+04	-1.03E+05	1.03E+05

Table L–436. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	4.40	-3.21E+03	3.22E+03	-3.21E+03	3.22E+03	-6.43E+04	6.42E+04
.10	17.6	-6.41E+03	6.43E+03	-6.41E+03	6.42E+03	-6.43E+04	6.40E+04
.20	70.6	-1.28E+04	1.28E+04	-1.28E+04	1.28E+04	-6.45E+04	6.39E+04
.40	282.	-2.57E+04	2.57E+04	-2.56E+04	2.57E+04	-6.48E+04	6.35E+04
.80	1.13E+03	-5.13E+04	5.14E+04	-5.13E+04	5.14E+04	-6.55E+04	6.28E+04

Table L–437. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	4.40	-3.21E+03	3.22E+03	-3.21E+03	3.22E+03	-6.43E+04	6.42E+04
.10	17.6	-6.41E+03	6.43E+03	-6.41E+03	6.42E+03	-6.43E+04	6.40E+04
.20	70.6	-1.28E+04	1.28E+04	-1.28E+04	1.28E+04	-6.45E+04	6.39E+04
.40	282.	-2.57E+04	2.57E+04	-2.56E+04	2.57E+04	-6.48E+04	6.35E+04
.80	1.13E+03	-5.13E+04	5.14E+04	-5.13E+04	5.14E+04	-6.55E+04	6.28E+04

Table L–438. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	-18.0	-3.21E+03	3.16E+03	-3.21E+03	3.16E+03	-6.38E+04	6.36E+04
.10	-87.4	-6.39E+03	6.07E+03	-6.38E+03	6.07E+03	-6.30E+04	6.16E+04
.20	-730.	-1.26E+04	1.22E+04	-1.26E+04	1.01E+04	-5.94E+04	5.41E+04
.40	-3.71E+03	-2.50E+04	2.10E+04	-2.47E+04	1.60E+04	-5.24E+04	4.92E+04
.80	-1.00E+04	-4.67E+04	5.98E+04	-4.67E+04	4.62E+04	-4.58E+04	7.03E+04

Table L–439. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NFA							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–440. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-31.5	-4.72E+03	4.56E+03	-4.67E+03	4.51E+03	-9.28E+04	9.09E+04
.10	-129.	-9.51E+03	8.92E+03	-9.41E+03	8.84E+03	-9.28E+04	8.97E+04
.20	-681.	-1.92E+04	1.68E+04	-1.89E+04	1.66E+04	-9.11E+04	8.62E+04
.40	-4.23E+03	-3.79E+04	3.40E+04	-3.75E+04	2.93E+04	-8.32E+04	8.38E+04
.80	-1.33E+04	-7.31E+04	8.19E+04	-7.21E+04	5.50E+04	-7.36E+04	8.54E+04

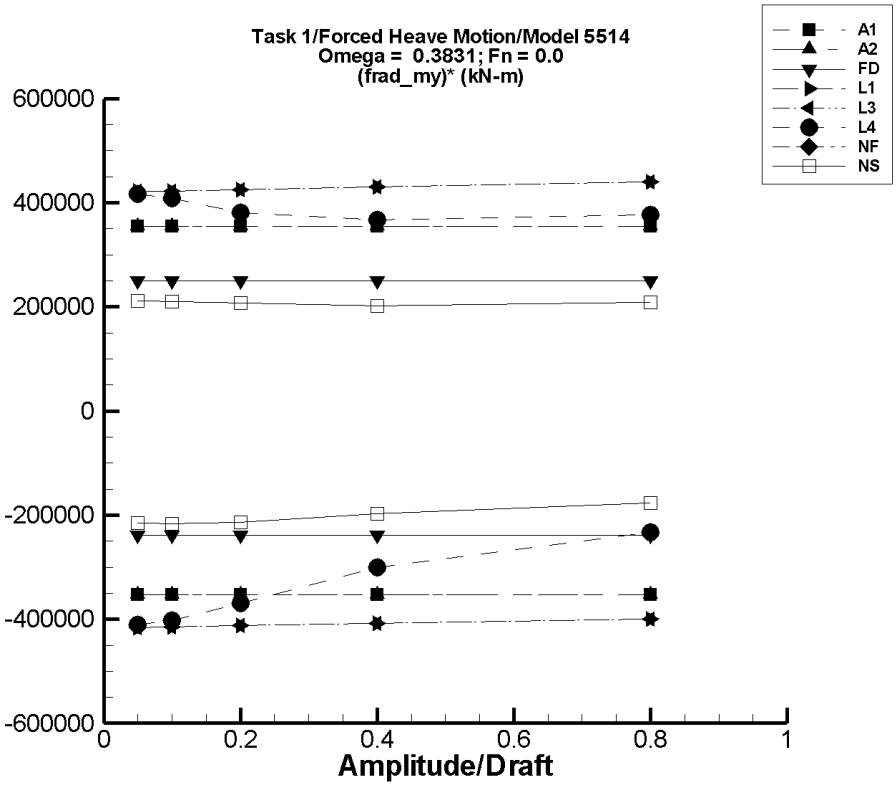

Figure L–56. Minimum and maximum of filtered $\left(M_y^{\text{rad}} - \langle M_y^{\text{rad}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.3831$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–441. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	-10.7	-1.77E+04	1.78E+04	-1.77E+04	1.77E+04	-3.53E+05	3.55E+05
.10	-21.3	-3.54E+04	3.56E+04	-3.53E+04	3.54E+04	-3.52E+05	3.54E+05
.20	-42.7	-7.07E+04	7.11E+04	-7.05E+04	7.08E+04	-3.52E+05	3.54E+05
.40	-85.4	-1.41E+05	1.42E+05	-1.41E+05	1.42E+05	-3.52E+05	3.54E+05
.80	-171.	-2.83E+05	2.84E+05	-2.82E+05	2.83E+05	-3.52E+05	3.54E+05

Table L–442. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	-10.7	-1.77E+04	1.78E+04	-1.77E+04	1.77E+04	-3.53E+05	3.55E+05
.10	-21.3	-3.54E+04	3.56E+04	-3.53E+04	3.54E+04	-3.52E+05	3.54E+05
.20	-42.7	-7.07E+04	7.11E+04	-7.05E+04	7.08E+04	-3.52E+05	3.54E+05
.40	-85.4	-1.41E+05	1.42E+05	-1.41E+05	1.42E+05	-3.52E+05	3.54E+05
.80	-171.	-2.83E+05	2.84E+05	-2.82E+05	2.83E+05	-3.52E+05	3.54E+05

Table L–443. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	-1.38E-03	-1.22E+04	1.22E+04	-1.22E+04	1.22E+04	-2.45E+05	2.44E+05
.10	-2.22E-03	-2.45E+04	2.45E+04	-2.45E+04	2.44E+04	-2.45E+05	2.44E+05
.20	-4.77E-03	-4.90E+04	4.90E+04	-4.89E+04	4.88E+04	-2.45E+05	2.44E+05
.40	-1.12E-02	-9.79E+04	9.79E+04	-9.79E+04	9.76E+04	-2.45E+05	2.44E+05
.80	-2.23E-02	-1.96E+05	1.96E+05	-1.96E+05	1.95E+05	-2.45E+05	2.44E+05

Table L–444. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	-46.7	-2.10E+04	2.10E+04	-2.09E+04	2.10E+04	-4.18E+05	4.21E+05
.10	-196.	-4.19E+04	4.20E+04	-4.18E+04	4.20E+04	-4.16E+05	4.21E+05
.20	-804.	-8.37E+04	8.41E+04	-8.36E+04	8.39E+04	-4.14E+05	4.24E+05
.40	-3.26E+03	-1.67E+05	1.68E+05	-1.67E+05	1.68E+05	-4.10E+05	4.28E+05
.80	-1.31E+04	-3.34E+05	3.38E+05	-3.34E+05	3.37E+05	-4.01E+05	4.38E+05

Table L–445. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-46.7	-2.10E+04	2.10E+04	-2.09E+04	2.10E+04	-4.18E+05	4.21E+05
.10	-196.	-4.19E+04	4.20E+04	-4.18E+04	4.20E+04	-4.16E+05	4.21E+05
.20	-804.	-8.37E+04	8.41E+04	-8.36E+04	8.39E+04	-4.14E+05	4.24E+05
.40	-3.26E+03	-1.67E+05	1.68E+05	-1.67E+05	1.68E+05	-4.10E+05	4.28E+05
.80	-1.31E+04	-3.34E+05	3.38E+05	-3.34E+05	3.37E+05	-4.01E+05	4.38E+05

Table L–446. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-157.	-2.08E+04	2.07E+04	-2.07E+04	2.06E+04	-4.11E+05	4.16E+05
.10	-738.	-4.11E+04	4.01E+04	-4.11E+04	4.00E+04	-4.03E+05	4.07E+05
.20	-5.80E+03	-8.05E+04	7.18E+04	-7.99E+04	7.02E+04	-3.71E+05	3.80E+05
.40	-2.75E+04	-1.50E+05	1.43E+05	-1.48E+05	1.20E+05	-3.00E+05	3.68E+05
.80	-6.68E+04	-2.78E+05	3.19E+05	-2.54E+05	2.35E+05	-2.34E+05	3.77E+05

Table L–447. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NFA							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–448. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-117.	-1.10E+04	1.06E+04	-1.09E+04	1.04E+04	-2.16E+05	2.11E+05
.10	-351.	-2.22E+04	2.09E+04	-2.20E+04	2.06E+04	-2.16E+05	2.10E+05
.20	-1.51E+03	-4.50E+04	4.05E+04	-4.42E+04	3.99E+04	-2.14E+05	2.07E+05
.40	-9.43E+03	-8.93E+04	8.33E+04	-8.83E+04	7.16E+04	-1.97E+05	2.02E+05
.80	-3.09E+04	-1.73E+05	2.03E+05	-1.72E+05	1.36E+05	-1.76E+05	2.09E+05

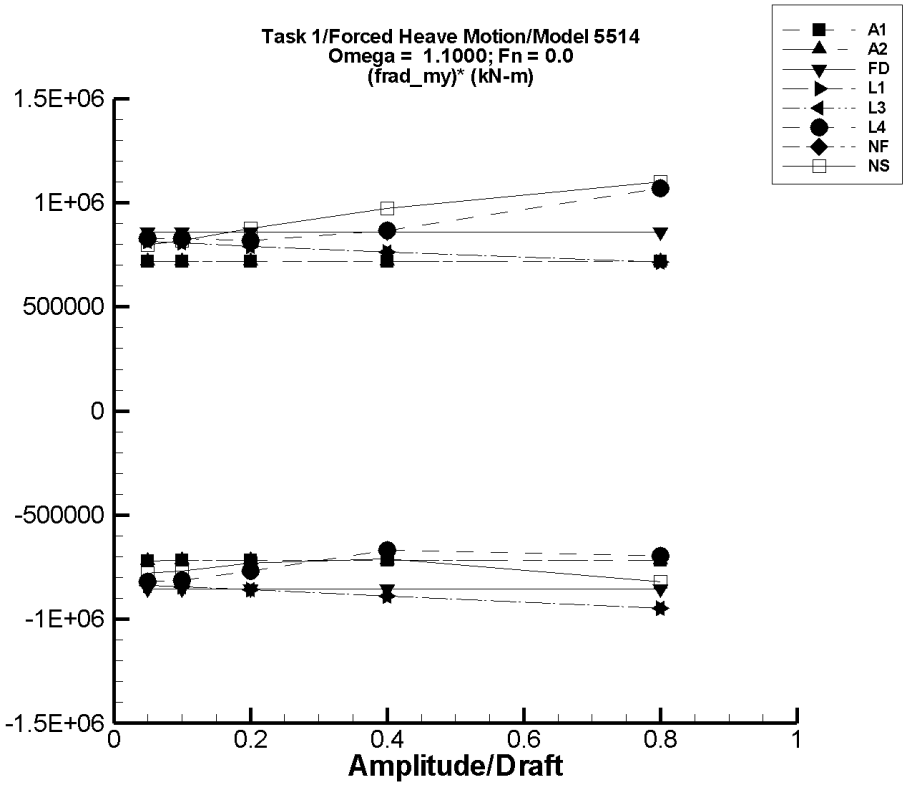

Figure L–57. Minimum and maximum of filtered $\left(M_y^{\text{rad}} - \langle M_y^{\text{rad}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 1.1000$ rad/s, $F_n = 0.0$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–449. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-1							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-364.	-3.75E+04	3.67E+04	-3.63E+04	3.56E+04	-7.20E+05	7.19E+05
.10	-727.	-7.49E+04	7.33E+04	-7.26E+04	7.11E+04	-7.18E+05	7.18E+05
.20	-1.45E+03	-1.50E+05	1.47E+05	-1.45E+05	1.42E+05	-7.18E+05	7.18E+05
.40	-2.91E+03	-2.99E+05	2.93E+05	-2.90E+05	2.84E+05	-7.18E+05	7.18E+05
.80	-5.82E+03	-5.99E+05	5.87E+05	-5.81E+05	5.69E+05	-7.18E+05	7.18E+05

Table L–450. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

AEGIR-2							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-364.	-3.75E+04	3.67E+04	-3.63E+04	3.56E+04	-7.20E+05	7.19E+05
.10	-727.	-7.49E+04	7.33E+04	-7.26E+04	7.11E+04	-7.18E+05	7.18E+05
.20	-1.45E+03	-1.50E+05	1.47E+05	-1.45E+05	1.42E+05	-7.18E+05	7.18E+05
.40	-2.91E+03	-2.99E+05	2.93E+05	-2.90E+05	2.84E+05	-7.18E+05	7.18E+05
.80	-5.82E+03	-5.99E+05	5.87E+05	-5.81E+05	5.69E+05	-7.18E+05	7.18E+05

Table L–451. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

FREDYN							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-2.43E-03	-4.41E+04	4.42E+04	-4.28E+04	4.29E+04	-8.55E+05	8.58E+05
.10	-4.79E-03	-8.82E+04	8.84E+04	-8.55E+04	8.58E+04	-8.55E+05	8.58E+05
.20	-9.84E-03	-1.76E+05	1.77E+05	-1.71E+05	1.72E+05	-8.55E+05	8.58E+05
.40	-1.38E-02	-3.53E+05	3.53E+05	-3.42E+05	3.43E+05	-8.55E+05	8.58E+05
.80	-3.86E-02	-7.06E+05	7.07E+05	-6.84E+05	6.86E+05	-8.55E+05	8.58E+05

Table L–452. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-1							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-43.3	-4.22E+04	4.13E+04	-4.17E+04	4.09E+04	-8.34E+05	8.19E+05
.10	-178.	-8.51E+04	8.17E+04	-8.41E+04	8.09E+04	-8.39E+05	8.10E+05
.20	-725.	-1.74E+05	1.60E+05	-1.71E+05	1.59E+05	-8.54E+05	7.96E+05
.40	-2.92E+03	-3.61E+05	3.07E+05	-3.56E+05	3.05E+05	-8.82E+05	7.69E+05
.80	-1.17E+04	-7.76E+05	5.68E+05	-7.64E+05	5.65E+05	-9.41E+05	7.21E+05

Table L–453. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-3							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-43.3	-4.22E+04	4.13E+04	-4.17E+04	4.09E+04	-8.34E+05	8.19E+05
.10	-178.	-8.51E+04	8.17E+04	-8.41E+04	8.09E+04	-8.39E+05	8.10E+05
.20	-725.	-1.74E+05	1.60E+05	-1.71E+05	1.59E+05	-8.54E+05	7.96E+05
.40	-2.92E+03	-3.61E+05	3.07E+05	-3.56E+05	3.05E+05	-8.82E+05	7.69E+05
.80	-1.17E+04	-7.76E+05	5.68E+05	-7.64E+05	5.65E+05	-9.41E+05	7.21E+05

Table L–454. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

LAMP-4							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-287.	-4.26E+04	4.19E+04	-4.11E+04	4.14E+04	-8.17E+05	8.34E+05
.10	-1.56E+03	-8.59E+04	8.42E+04	-8.24E+04	8.17E+04	-8.09E+05	8.33E+05
.20	-5.28E+03	-1.66E+05	1.74E+05	-1.57E+05	1.60E+05	-7.58E+05	8.27E+05
.40	-1.38E+04	-3.03E+05	4.40E+05	-2.76E+05	3.38E+05	-6.55E+05	8.80E+05
.80	-4.98E+04	-6.74E+05	1.22E+06	-5.91E+05	8.22E+05	-6.77E+05	1.09E+06

Table L–455. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NFA							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–456. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.0$)

NSHIPMO							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-584.	-3.99E+04	3.97E+04	-3.95E+04	3.93E+04	-7.79E+05	7.97E+05
.10	-1.66E+03	-7.91E+04	8.16E+04	-7.84E+04	8.01E+04	-7.67E+05	8.18E+05
.20	-5.91E+03	-1.55E+05	1.73E+05	-1.52E+05	1.69E+05	-7.30E+05	8.77E+05
.40	-3.99E+04	-3.28E+05	4.22E+05	-3.24E+05	3.49E+05	-7.11E+05	9.72E+05
.80	-1.57E+05	-8.25E+05	1.17E+06	-8.13E+05	7.23E+05	-8.20E+05	1.10E+06

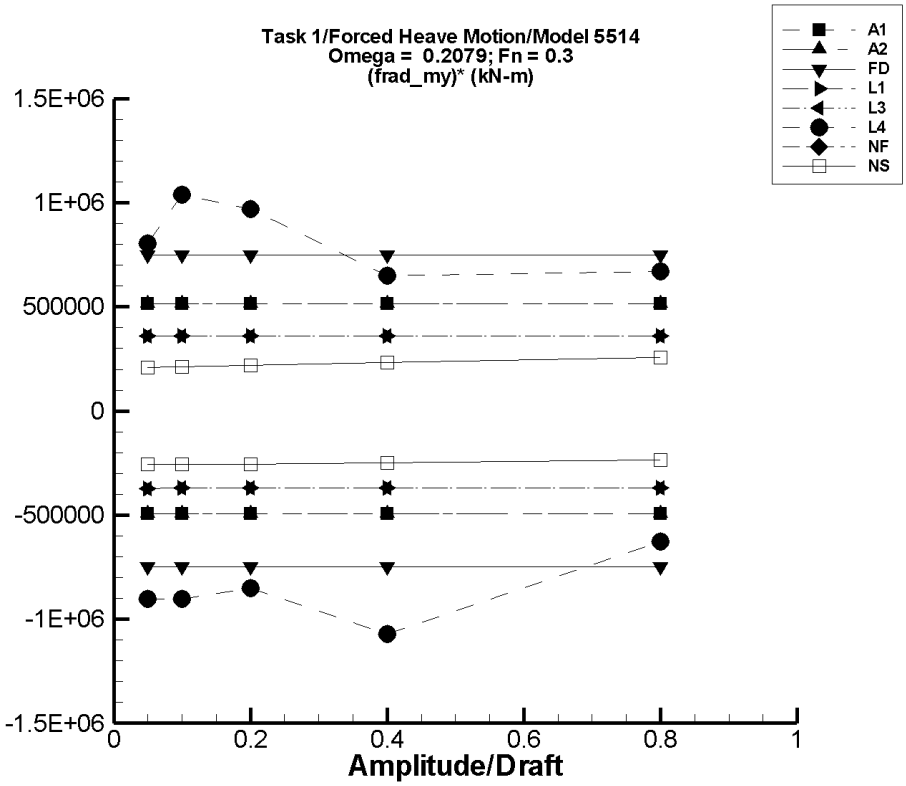

Figure L–58. Minimum and maximum of filtered $\left(M_y^{\text{rad}} - \langle M_y^{\text{rad}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.2079$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–457. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-101.	-2.56E+04	2.64E+04	-2.48E+04	2.56E+04	-4.93E+05	5.15E+05
.10	-202.	-5.11E+04	5.27E+04	-4.94E+04	5.12E+04	-4.92E+05	5.14E+05
.20	-405.	-1.02E+05	1.05E+05	-9.89E+04	1.02E+05	-4.92E+05	5.14E+05
.40	-810.	-2.04E+05	2.11E+05	-1.98E+05	2.05E+05	-4.92E+05	5.14E+05
.80	-1.62E+03	-4.09E+05	4.21E+05	-3.95E+05	4.10E+05	-4.92E+05	5.14E+05

Table L–458. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-101.	-2.56E+04	2.64E+04	-2.48E+04	2.56E+04	-4.93E+05	5.15E+05
.10	-202.	-5.11E+04	5.27E+04	-4.94E+04	5.12E+04	-4.92E+05	5.14E+05
.20	-405.	-1.02E+05	1.05E+05	-9.89E+04	1.02E+05	-4.92E+05	5.14E+05
.40	-810.	-2.04E+05	2.11E+05	-1.98E+05	2.05E+05	-4.92E+05	5.14E+05
.80	-1.62E+03	-4.09E+05	4.21E+05	-3.95E+05	4.10E+05	-4.92E+05	5.14E+05

Table L–459. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	9.45E-05	-3.75E+04	3.75E+04	-3.74E+04	3.74E+04	-7.48E+05	7.48E+05
.10	-5.97E-04	-7.49E+04	7.49E+04	-7.48E+04	7.48E+04	-7.48E+05	7.48E+05
.20	1.72E-03	-1.50E+05	1.50E+05	-1.50E+05	1.50E+05	-7.48E+05	7.48E+05
.40	-1.59E-02	-3.00E+05	3.00E+05	-2.99E+05	2.99E+05	-7.48E+05	7.48E+05
.80	-8.74E-03	-5.99E+05	5.99E+05	-5.99E+05	5.99E+05	-7.48E+05	7.48E+05

Table L–460. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	4.35E+04	2.52E+04	6.18E+04	2.52E+04	6.18E+04	-3.66E+05	3.66E+05
.10	4.36E+04	6.98E+03	8.02E+04	7.00E+03	8.02E+04	-3.66E+05	3.66E+05
.20	4.38E+04	-2.93E+04	1.17E+05	-2.93E+04	1.17E+05	-3.66E+05	3.66E+05
.40	4.48E+04	-1.01E+05	1.91E+05	-1.01E+05	1.91E+05	-3.66E+05	3.66E+05
.80	4.88E+04	-2.44E+05	3.42E+05	-2.44E+05	3.42E+05	-3.65E+05	3.67E+05

Table L–461. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	4.35E+04	2.52E+04	6.18E+04	2.52E+04	6.18E+04	-3.66E+05	3.66E+05
.10	4.36E+04	6.98E+03	8.02E+04	7.00E+03	8.02E+04	-3.66E+05	3.66E+05
.20	4.38E+04	-2.93E+04	1.17E+05	-2.93E+04	1.17E+05	-3.66E+05	3.66E+05
.40	4.48E+04	-1.01E+05	1.91E+05	-1.01E+05	1.91E+05	-3.66E+05	3.66E+05
.80	4.88E+04	-2.44E+05	3.42E+05	-2.44E+05	3.42E+05	-3.66E+05	3.67E+05

Table L–462. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	4.29E+04	-2.07E+04	8.63E+04	-1.82E+03	8.35E+04	-8.95E+05	8.12E+05
.10	3.98E+04	-6.70E+04	1.49E+05	-4.97E+04	1.44E+05	-8.95E+05	1.05E+06
.20	3.19E+04	-1.56E+05	2.55E+05	-1.36E+05	2.28E+05	-8.40E+05	9.79E+05
.40	7.11E+03	-5.02E+05	3.10E+05	-4.17E+05	2.72E+05	-1.06E+06	6.61E+05
.80	-5.85E+04	-5.69E+05	5.53E+05	-5.50E+05	4.87E+05	-6.14E+05	6.81E+05

Table L–463. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NFA							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–464. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.2079$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	-664.	-1.35E+04	1.02E+04	-1.34E+04	9.84E+03	-2.55E+05	2.10E+05
.10	-1.65E+03	-2.74E+04	1.96E+04	-2.72E+04	1.95E+04	-2.55E+05	2.11E+05
.20	-4.56E+03	-5.61E+04	3.99E+04	-5.56E+04	3.94E+04	-2.55E+05	2.20E+05
.40	-1.27E+04	-1.13E+05	9.13E+04	-1.12E+05	8.11E+04	-2.48E+05	2.34E+05
.80	-4.38E+04	-2.35E+05	1.97E+05	-2.33E+05	1.61E+05	-2.36E+05	2.57E+05

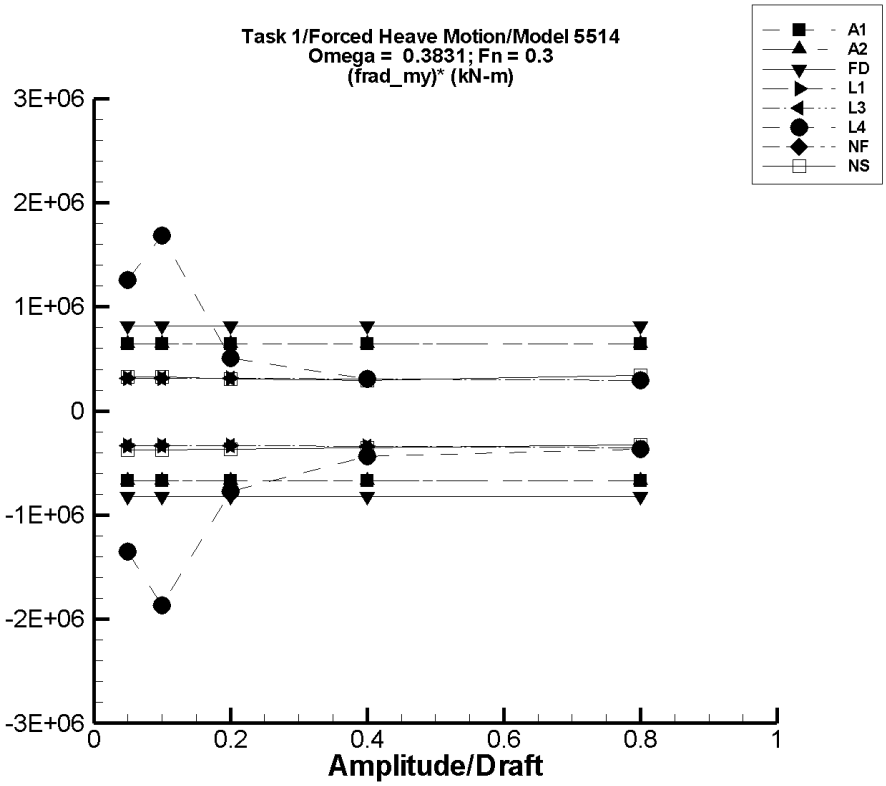

Figure L–59. Minimum and maximum of filtered $\left(M_y^{\text{rad}} - \langle M_y^{\text{rad}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 0.3831$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–465. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	457.	-3.32E+04	3.43E+04	-3.31E+04	3.28E+04	-6.70E+05	6.47E+05
.10	912.	-6.63E+04	6.85E+04	-6.60E+04	6.55E+04	-6.69E+05	6.46E+05
.20	1.82E+03	-1.33E+05	1.37E+05	-1.32E+05	1.31E+05	-6.69E+05	6.46E+05
.40	3.65E+03	-2.65E+05	2.74E+05	-2.64E+05	2.62E+05	-6.69E+05	6.46E+05
.80	7.30E+03	-5.30E+05	5.48E+05	-5.28E+05	5.24E+05	-6.69E+05	6.46E+05

Table L–466. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	457.	-3.32E+04	3.43E+04	-3.31E+04	3.28E+04	-6.70E+05	6.47E+05
.10	912.	-6.63E+04	6.85E+04	-6.60E+04	6.55E+04	-6.69E+05	6.46E+05
.20	1.82E+03	-1.33E+05	1.37E+05	-1.32E+05	1.31E+05	-6.69E+05	6.46E+05
.40	3.65E+03	-2.65E+05	2.74E+05	-2.64E+05	2.62E+05	-6.69E+05	6.46E+05
.80	7.30E+03	-5.30E+05	5.48E+05	-5.28E+05	5.24E+05	-6.69E+05	6.46E+05

Table L–467. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-5.59E-03	-4.10E+04	4.10E+04	-4.09E+04	4.09E+04	-8.18E+05	8.18E+05
.10	-1.08E-02	-8.21E+04	8.21E+04	-8.18E+04	8.18E+04	-8.18E+05	8.18E+05
.20	-2.31E-02	-1.64E+05	1.64E+05	-1.64E+05	1.64E+05	-8.18E+05	8.18E+05
.40	-4.10E-02	-3.28E+05	3.28E+05	-3.27E+05	3.27E+05	-8.18E+05	8.18E+05
.80	-6.87E-02	-6.57E+05	6.57E+05	-6.54E+05	6.54E+05	-8.18E+05	8.18E+05

Table L–468. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	4.36E+04	2.73E+04	5.97E+04	2.73E+04	5.96E+04	-3.25E+05	3.22E+05
.10	4.38E+04	1.11E+04	7.58E+04	1.12E+04	7.57E+04	-3.26E+05	3.20E+05
.20	4.45E+04	-2.13E+04	1.08E+05	-2.12E+04	1.08E+05	-3.29E+05	3.17E+05
.40	4.77E+04	-8.63E+04	1.72E+05	-8.62E+04	1.72E+05	-3.35E+05	3.11E+05
.80	6.05E+04	-2.17E+05	3.00E+05	-2.17E+05	2.99E+05	-3.47E+05	2.99E+05

Table L–469. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	4.36E+04	2.73E+04	5.97E+04	2.73E+04	5.96E+04	-3.25E+05	3.22E+05
.10	4.37E+04	1.11E+04	7.58E+04	1.12E+04	7.57E+04	-3.26E+05	3.20E+05
.20	4.45E+04	-2.13E+04	1.08E+05	-2.12E+04	1.08E+05	-3.29E+05	3.17E+05
.40	4.77E+04	-8.64E+04	1.72E+05	-8.62E+04	1.72E+05	-3.35E+05	3.11E+05
.80	6.05E+04	-2.17E+05	3.00E+05	-2.17E+05	2.99E+05	-3.47E+05	2.99E+05

Table L–470. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	4.25E+04	-5.00E+04	1.10E+05	-2.43E+04	1.06E+05	-1.34E+06	1.27E+06
.10	3.96E+04	-1.54E+05	2.21E+05	-1.46E+05	2.09E+05	-1.85E+06	1.70E+06
.20	2.92E+04	-1.48E+05	1.44E+05	-1.24E+05	1.33E+05	-7.65E+05	5.20E+05
.40	296.	-1.89E+05	1.71E+05	-1.70E+05	1.29E+05	-4.25E+05	3.21E+05
.80	-5.52E+04	-3.44E+05	2.30E+05	-3.41E+05	1.90E+05	-3.57E+05	3.06E+05

Table L–471. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NFA							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–472. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 0.3831$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-1.01E+03	-1.98E+04	1.57E+04	-1.96E+04	1.55E+04	-3.71E+05	3.31E+05
.10	-2.56E+03	-4.02E+04	3.04E+04	-3.98E+04	3.01E+04	-3.73E+05	3.27E+05
.20	-7.43E+03	-8.20E+04	5.53E+04	-8.12E+04	5.45E+04	-3.69E+05	3.10E+05
.40	-1.92E+04	-1.61E+05	1.14E+05	-1.59E+05	9.85E+04	-3.51E+05	2.94E+05
.80	-6.58E+04	-3.28E+05	2.63E+05	-3.27E+05	2.07E+05	-3.26E+05	3.41E+05

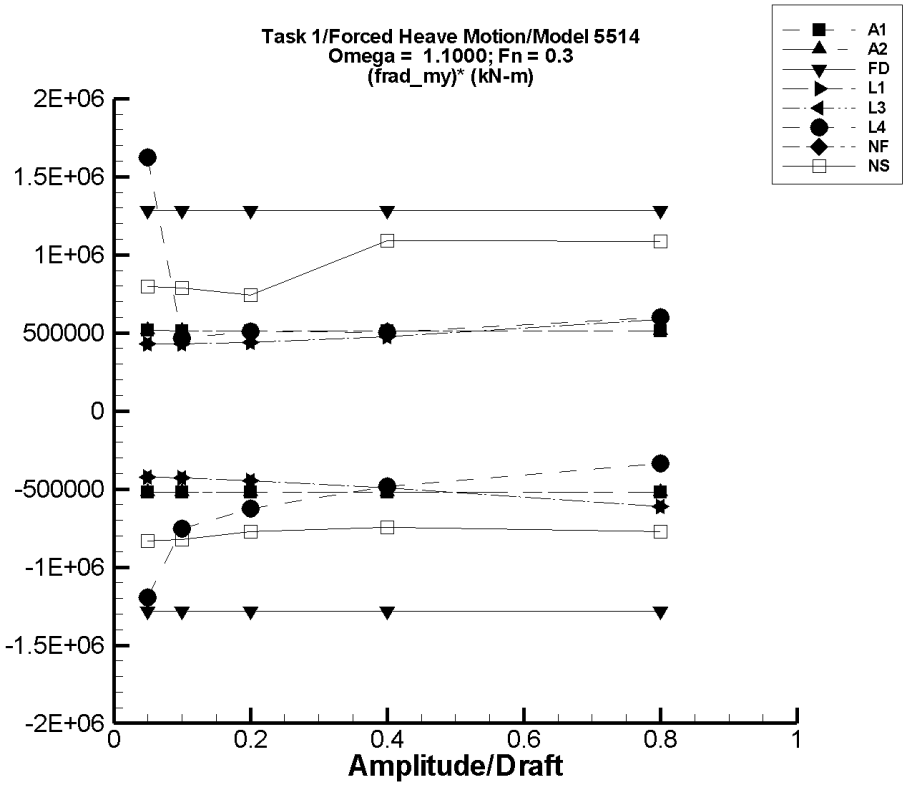

Figure L–60. Minimum and maximum of filtered $\left(M_y^{\text{rad}} - \langle M_y^{\text{rad}} \rangle\right)/(z_a/T)$ vs. (z_a/T) for $\omega = 1.1000$ rad/s, $F_n = 0.3$ in the case of task 1, forced heave motion, and Model 5514 scaled to L = 142 m.

Table L–473. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (AEGIR-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-1							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	-676.	-2.75E+04	2.59E+04	-2.67E+04	2.51E+04	-5.20E+05	5.16E+05
.10	-1.35E+03	-5.50E+04	5.18E+04	-5.33E+04	5.01E+04	-5.19E+05	5.15E+05
.20	-2.70E+03	-1.10E+05	1.04E+05	-1.07E+05	1.00E+05	-5.19E+05	5.15E+05
.40	-5.40E+03	-2.20E+05	2.07E+05	-2.13E+05	2.01E+05	-5.19E+05	5.15E+05
.80	-1.08E+04	-4.40E+05	4.14E+05	-4.26E+05	4.01E+05	-5.19E+05	5.15E+05

Table L–474. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (AEGIR-2, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

AEGIR-2							
	$\langle M_y^{\text{rad}} \rangle$	**Unfiltered** M_y^{rad}		**Filtered** M_y^{rad}		**Filtered** $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	**Mean (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**	**Min. (kN-m)**	**Max. (kN-m)**
.05	-676.	-2.75E+04	2.59E+04	-2.67E+04	2.51E+04	-5.20E+05	5.16E+05
.10	-1.35E+03	-5.50E+04	5.18E+04	-5.33E+04	5.01E+04	-5.19E+05	5.15E+05
.20	-2.70E+03	-1.10E+05	1.04E+05	-1.07E+05	1.00E+05	-5.19E+05	5.15E+05
.40	-5.40E+03	-2.20E+05	2.07E+05	-2.13E+05	2.01E+05	-5.19E+05	5.15E+05
.80	-1.08E+04	-4.40E+05	4.14E+05	-4.26E+05	4.01E+05	-5.19E+05	5.15E+05

Table L–475. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (FREDYN, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

FREDYN							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-6.72E-03	-6.61E+04	6.61E+04	-6.41E+04	6.41E+04	-1.28E+06	1.28E+06
.10	-1.66E-02	-1.32E+05	1.32E+05	-1.28E+05	1.28E+05	-1.28E+06	1.28E+06
.20	-3.37E-02	-2.65E+05	2.64E+05	-2.56E+05	2.56E+05	-1.28E+06	1.28E+06
.40	-5.41E-02	-5.29E+05	5.29E+05	-5.13E+05	5.12E+05	-1.28E+06	1.28E+06
.80	-0.129	-1.06E+06	1.06E+06	-1.03E+06	1.02E+06	-1.28E+06	1.28E+06

Table L–476. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (LAMP-1, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-1							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	4.35E+04	2.21E+04	6.51E+04	2.24E+04	6.50E+04	-4.23E+05	4.29E+05
.10	4.30E+04	-380.	8.62E+04	120.	8.63E+04	-4.29E+05	4.33E+05
.20	4.08E+04	-4.94E+04	1.30E+05	-4.82E+04	1.29E+05	-4.45E+05	4.41E+05
.40	3.19E+04	-1.68E+05	2.28E+05	-1.65E+05	2.24E+05	-4.91E+05	4.81E+05
.80	-3.40E+03	-5.01E+05	4.83E+05	-4.89E+05	4.71E+05	-6.07E+05	5.93E+05

Table L–477. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (LAMP-3, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-3							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	4.35E+04	2.21E+04	6.51E+04	2.24E+04	6.50E+04	-4.23E+05	4.29E+05
.10	4.30E+04	-375.	8.62E+04	131.	8.63E+04	-4.28E+05	4.33E+05
.20	4.07E+04	-4.94E+04	1.30E+05	-4.82E+04	1.29E+05	-4.45E+05	4.41E+05
.40	3.19E+04	-1.68E+05	2.28E+05	-1.65E+05	2.24E+05	-4.91E+05	4.80E+05
.80	-3.42E+03	-5.01E+05	4.83E+05	-4.89E+05	4.71E+05	-6.07E+05	5.93E+05

Table L–478. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (LAMP-4, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

LAMP-4							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	4.03E+04	-6.38E+04	1.24E+05	-2.06E+04	1.20E+05	-1.22E+06	1.60E+06
.10	3.74E+04	-7.10E+04	1.01E+05	-3.69E+04	8.51E+04	-7.43E+05	4.77E+05
.20	2.70E+04	-1.37E+05	1.60E+05	-9.42E+04	1.32E+05	-6.06E+05	5.24E+05
.40	1.31E+04	-2.35E+05	3.66E+05	-1.72E+05	2.23E+05	-4.63E+05	5.23E+05
.80	5.34E+04	-2.74E+05	8.31E+05	-2.02E+05	5.50E+05	-3.19E+05	6.21E+05

Table L–479. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (NFA, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NFA							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	—	—	—	—	—	—	—
.10	—	—	—	—	—	—	—
.20	—	—	—	—	—	—	—
.40	—	—	—	—	—	—	—
.80	—	—	—	—	—	—	—

Table L–480. Minimum and Maximum of Variables M_y^{rad} and $\left(M_y^{\text{rad}}\right)^*$ for the case (NSHIPMO, Task 1, Forced Heave Motion, Model 5514 Scaled to L = 142 m, $\omega = 1.1000$ rad/s, $F_n = 0.3$)

NSHIPMO							
	$\langle M_y^{\text{rad}} \rangle$	Unfiltered M_y^{rad}		Filtered M_y^{rad}		Filtered $\left(M_y^{\text{rad}}\right)^*$	
(z_a/T)	Mean (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)	Min. (kN-m)	Max. (kN-m)
.05	-2.62E+03	-4.46E+04	3.77E+04	-4.42E+04	3.72E+04	-8.31E+05	7.97E+05
.10	-7.32E+03	-9.07E+04	7.21E+04	-8.98E+04	7.14E+04	-8.25E+05	7.87E+05
.20	-2.65E+04	-1.83E+05	1.26E+05	-1.81E+05	1.22E+05	-7.72E+05	7.43E+05
.40	-2.72E+04	-3.29E+05	4.84E+05	-3.26E+05	4.10E+05	-7.47E+05	1.09E+06
.80	-4.36E+04	-6.65E+05	1.26E+06	-6.63E+05	8.25E+05	-7.74E+05	1.09E+06